

"APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00050981

START

APPROVED FOR RELEASE: Thursday, July 27, 2000 CIA-RDP86-00513R00050981C

Reel # 98  
Davanin, A.I.

1. DAVANIN, A. I.

2. USSR (600)

"Calculation of Characteristic High Water Levels." Zapiski po hidrografii, No. 1, 1948 (43-48).

9. Meteorologiya i Gidrologiya, No. 3, 1949.  
[redacted] Report U-2551, 30 Oct 52

"APPROVED FOR RELEASE: Thursday, July 27, 2000

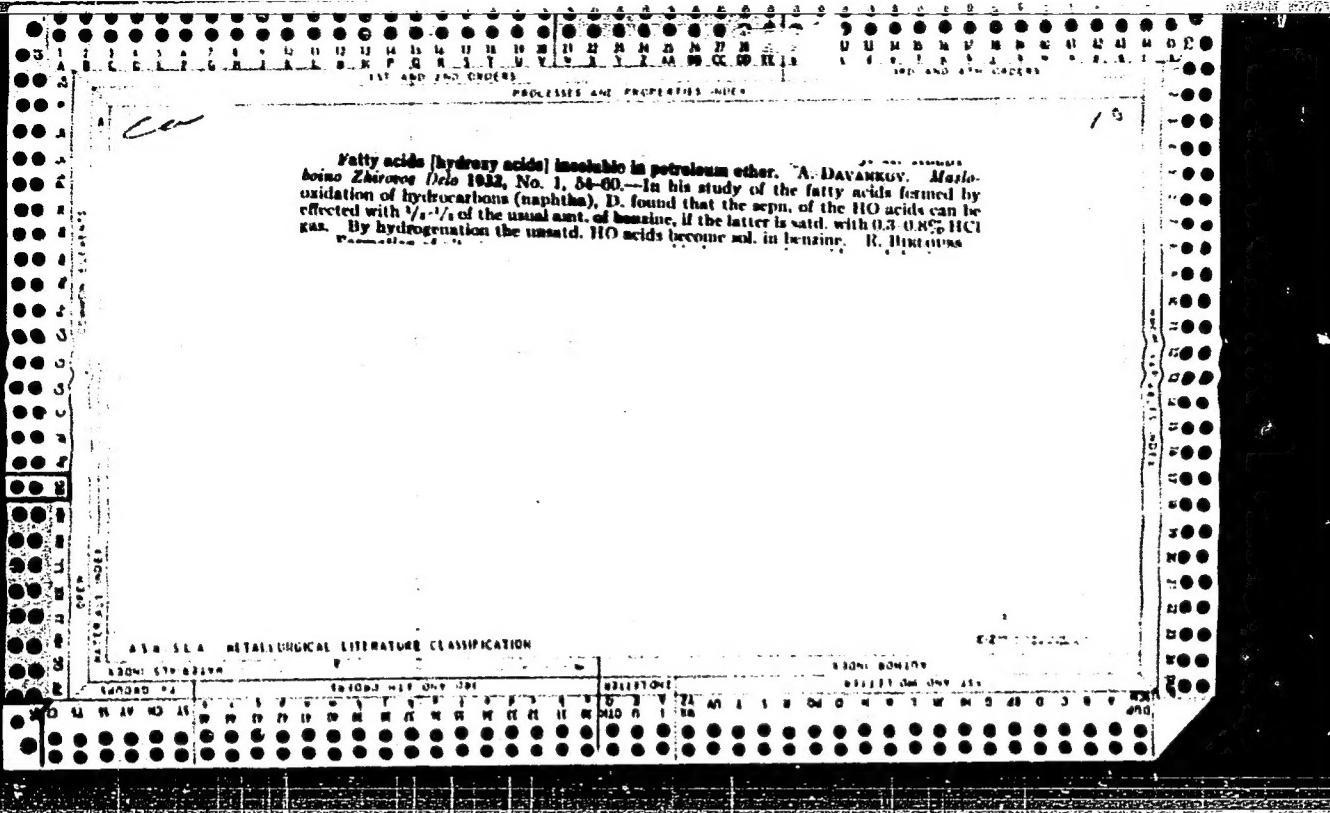
CIA-RDP86-00513R00050981

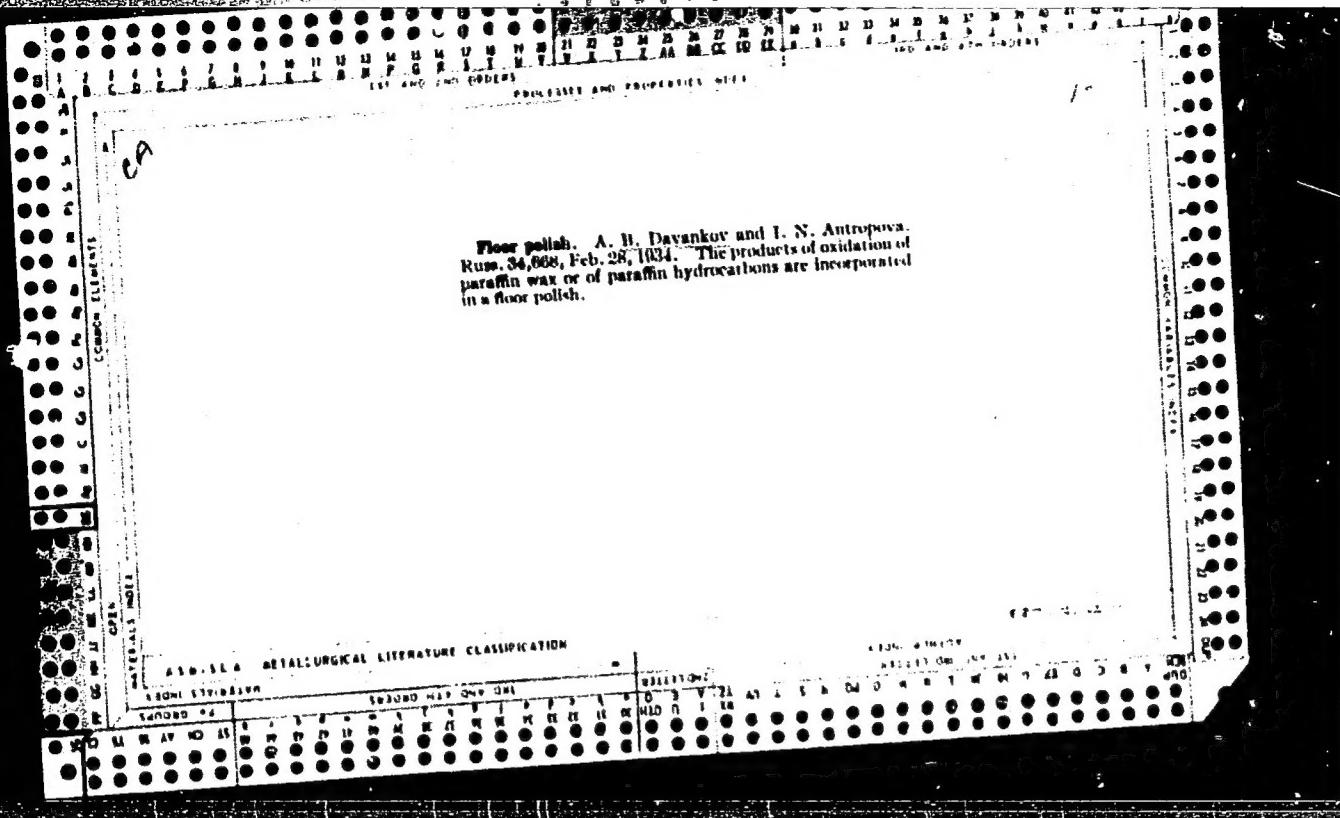
DAVANKOV, A.

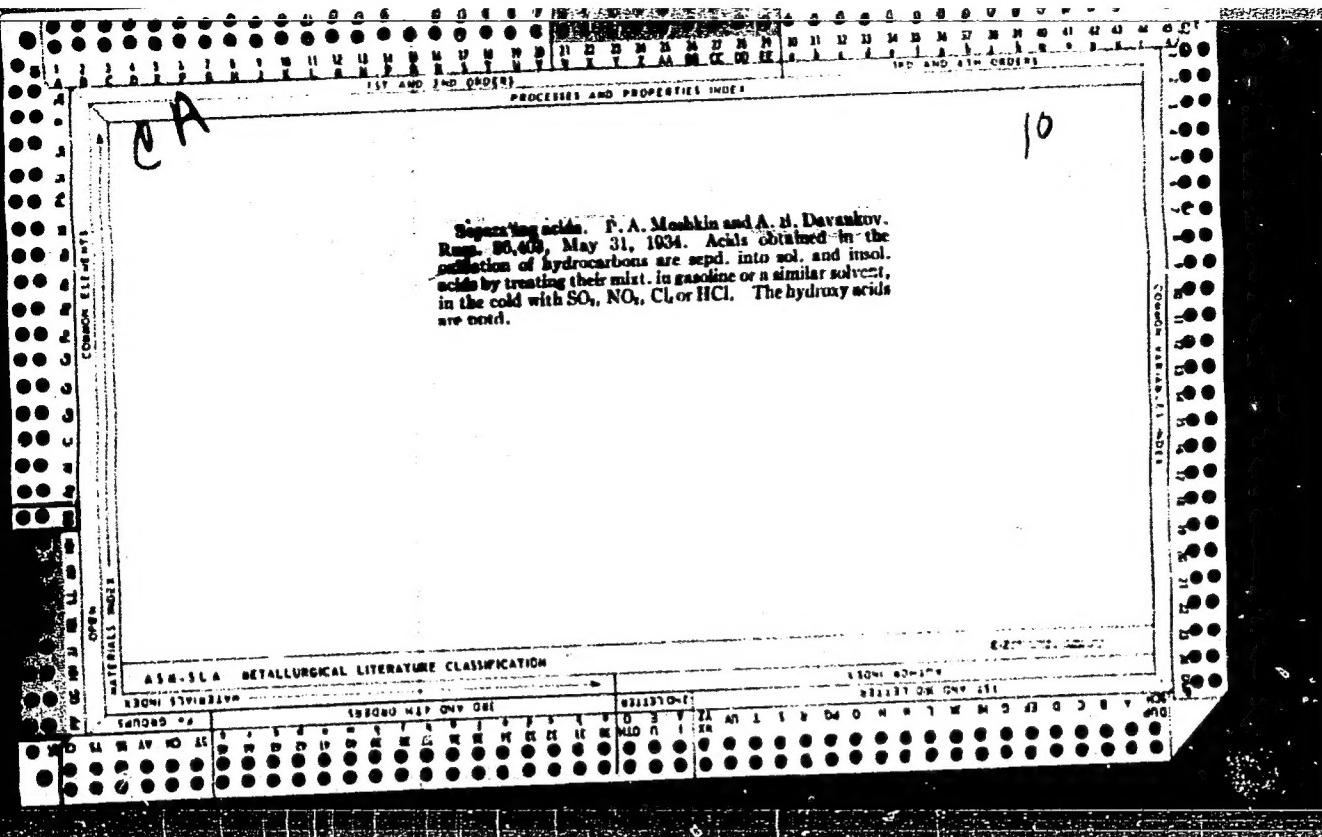
Magic grains. Nauka i tekhnika 13 no.12:18-20 D '61.

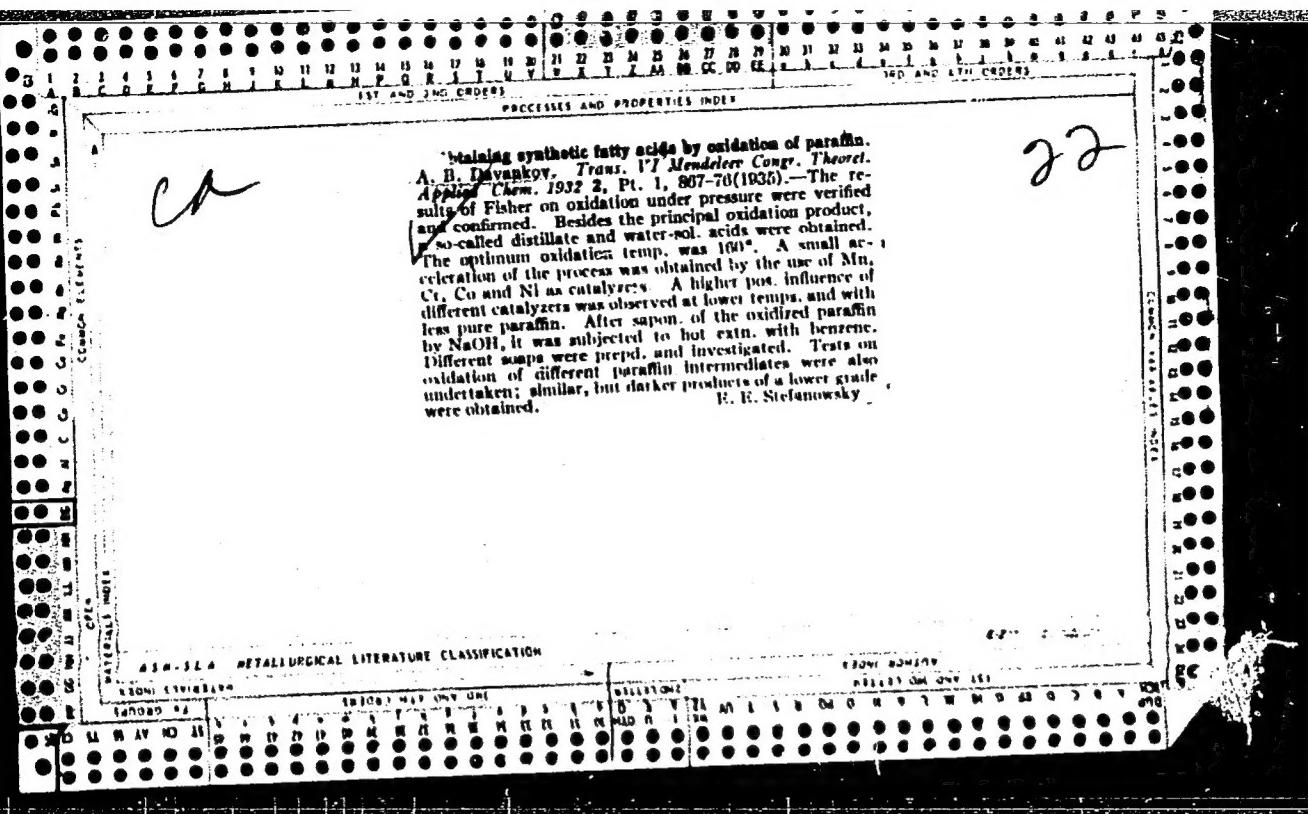
APPROVED FOR RELEASE: Thursday, July 27, 2000

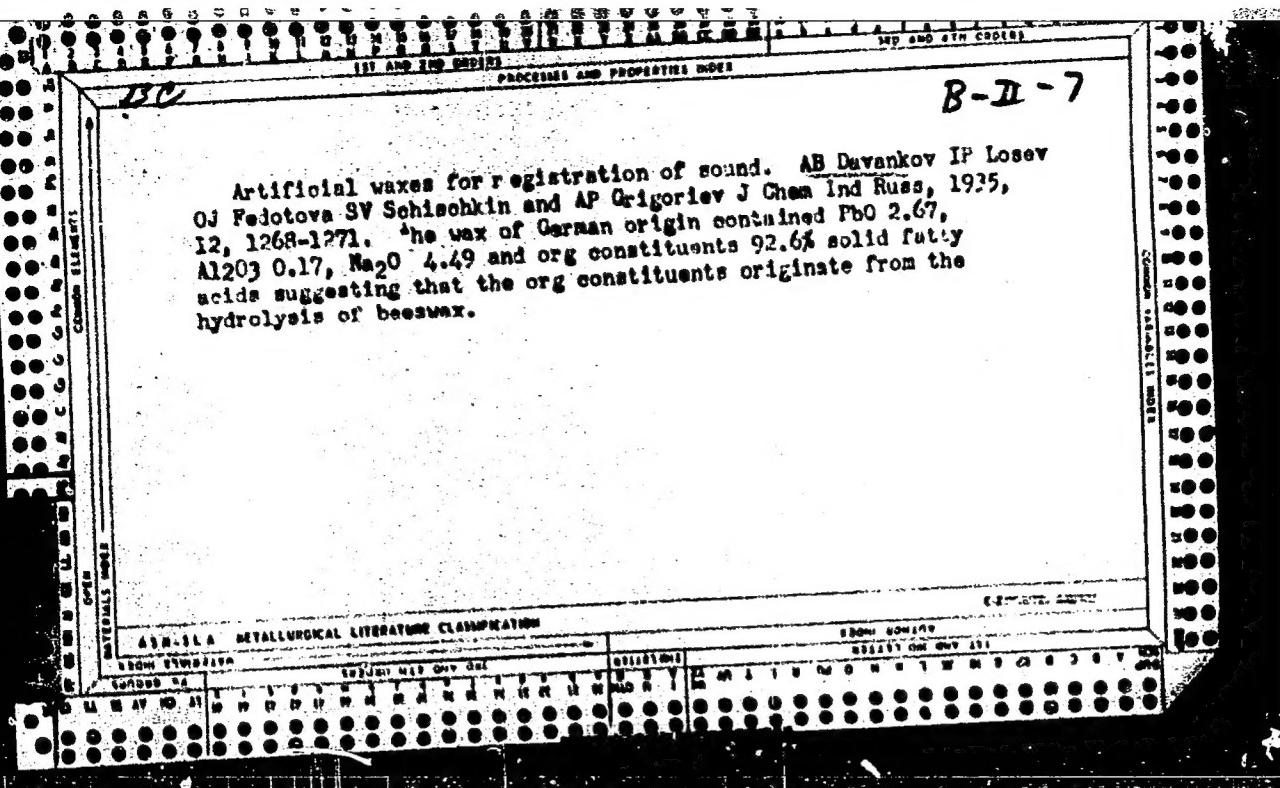
CIA-RDP86-00513R00050981C

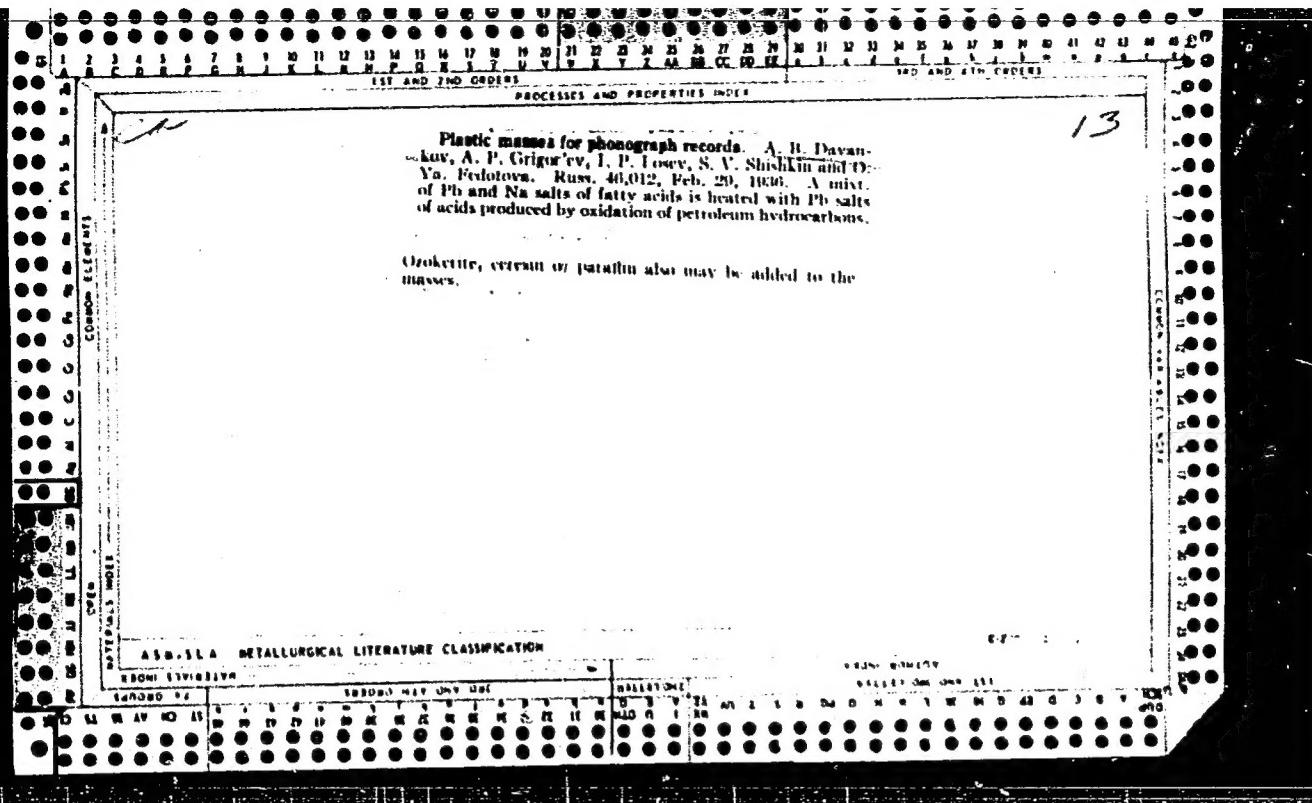


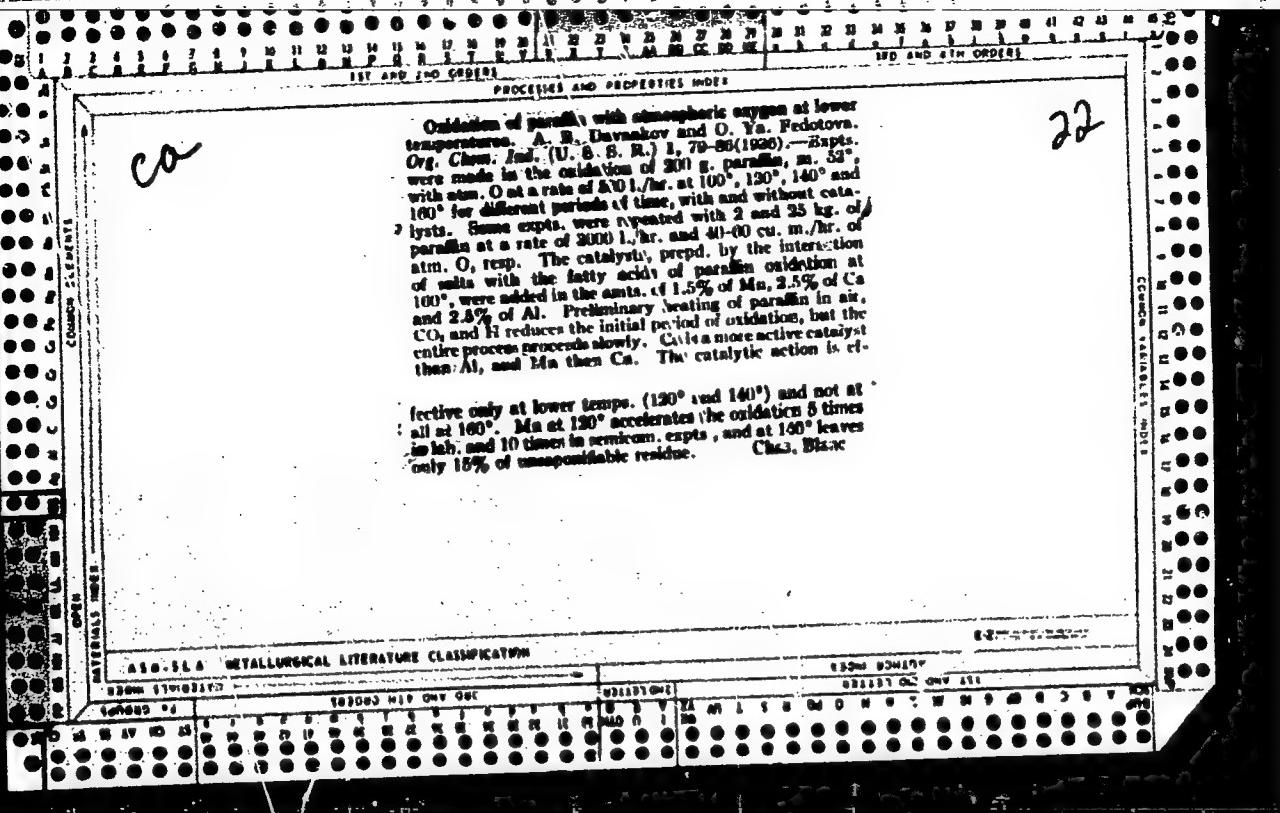




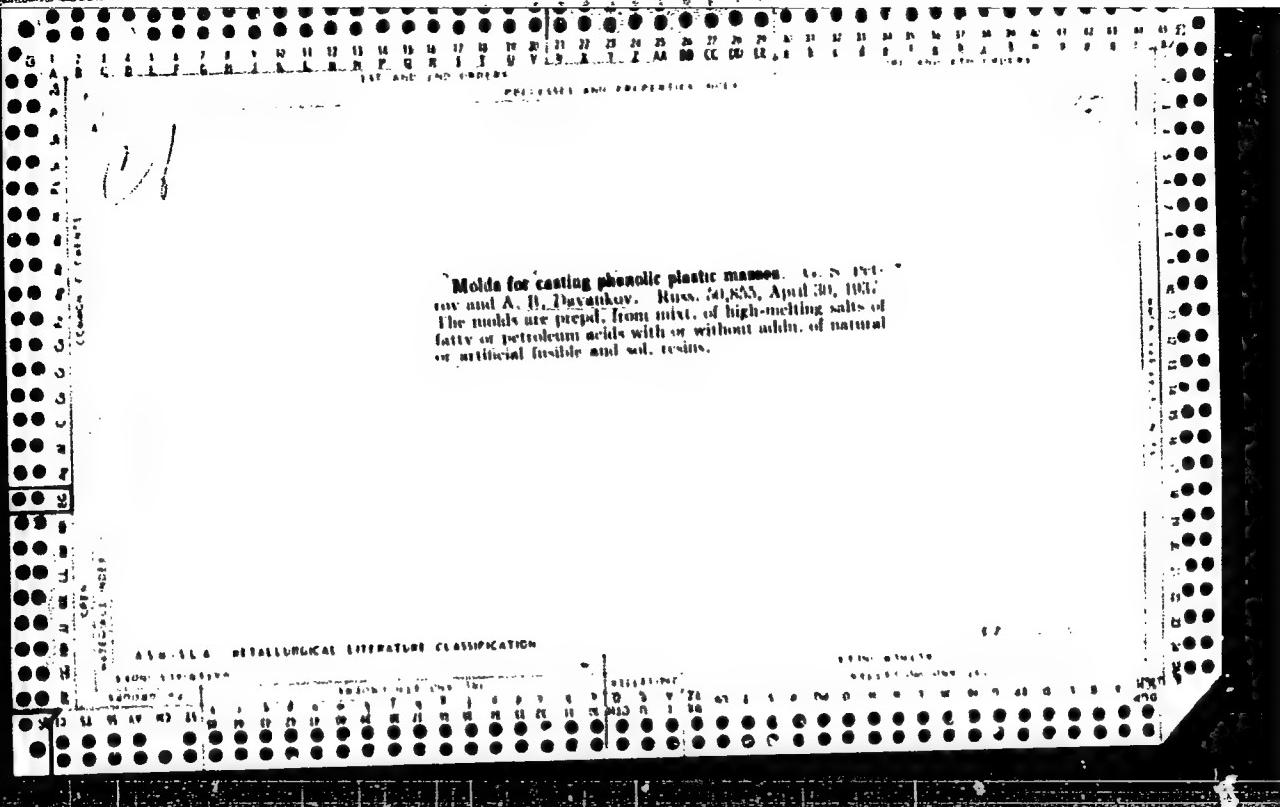


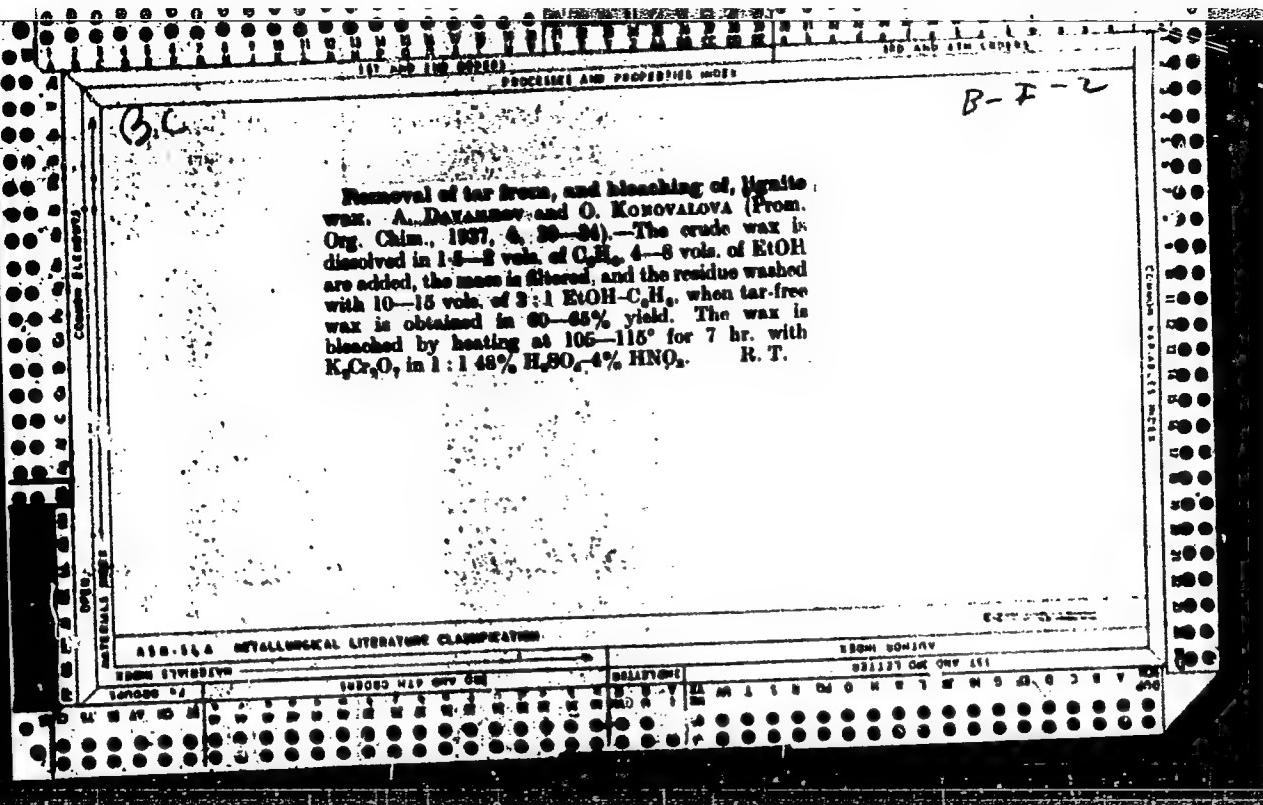






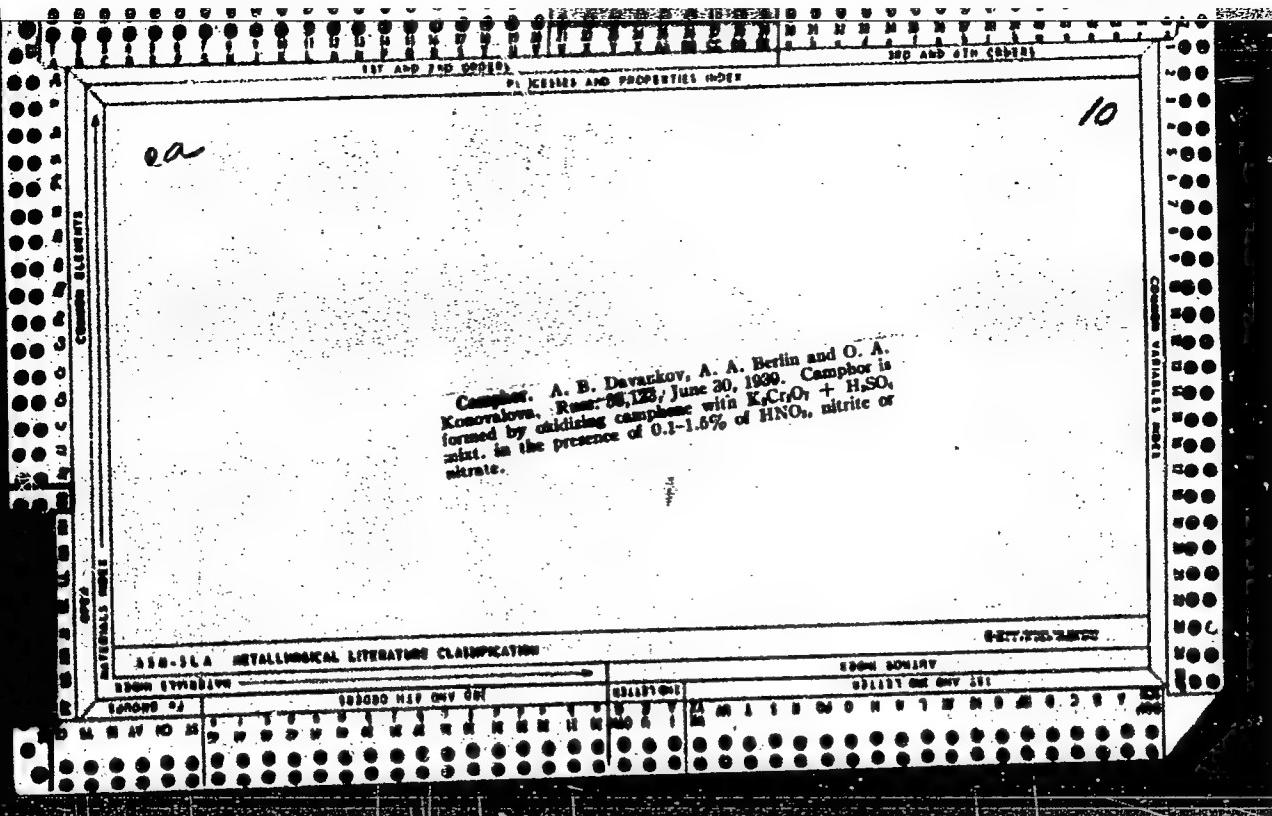
**Conversion of synthetic fatty acids into hydroxy acids.** At 140–150° and O<sub>2</sub> fed into a tube. Org. Chem. Ind. (U. S. S. R.) 47: 85–7 (1958).—Fatty acids are completely converted to hydroxy acids by continued oxidation with air. At 140–150° for 18 hrs. In the presence of Mn salts of fatty acids the reaction is catalyzed at 120°. Only traces of lower (volatile) acids are formed in the reaction.





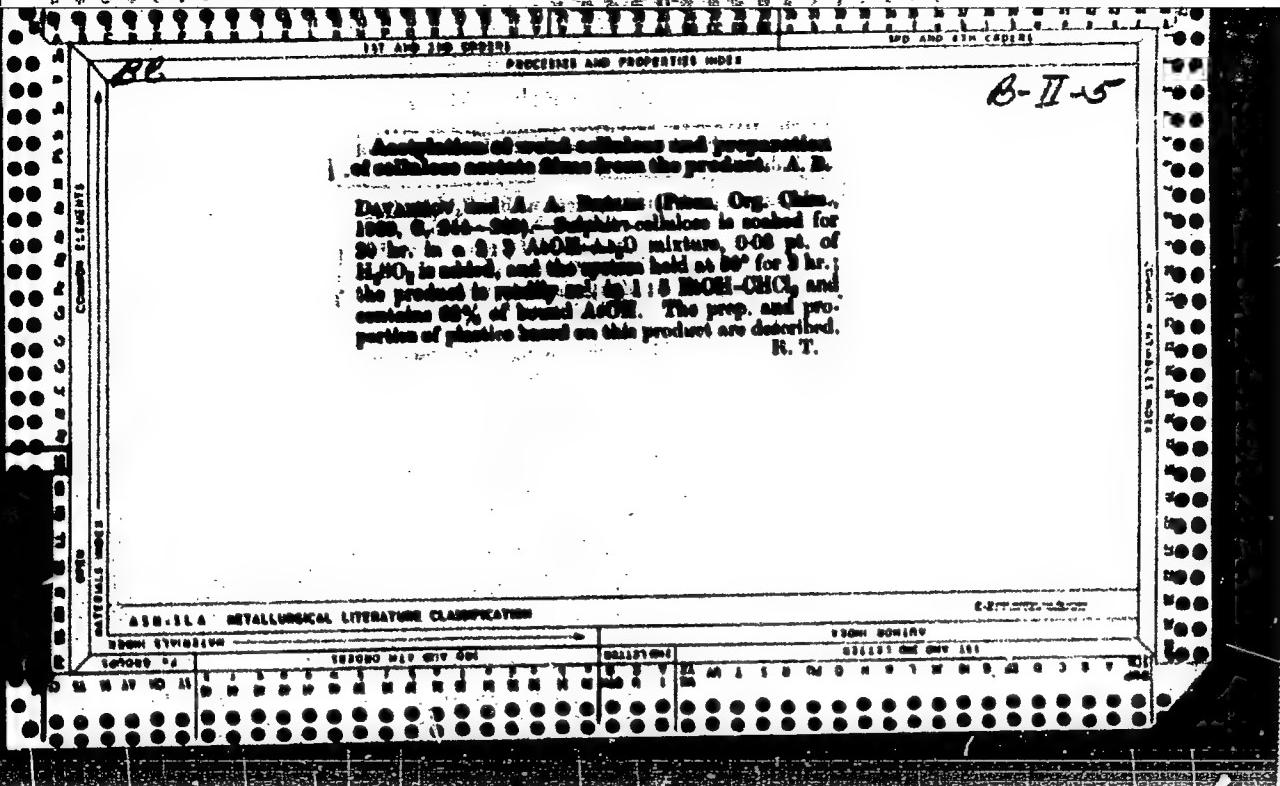
**Derezinification and bleaching of montan wax.** II.  
Davankov and O. A. Komovalova, *Org. Chem. Ind.* (U.S.S.R.), 1951, 4, 370 (1951); cf. C. A., 41, 6629. The improved procedure eliminates the use of inflammable solvents and precipitants and the operations involved in the recovery of these agents. The crude wax was dissolved in 4 vols. of dichloroethane ( $\text{Cl}_2\text{CH}-\text{CH}_2$ ), the solution was cooled to room temp., or preferably to  $0^\circ$ , and the filtered wax was washed with 10-50 vol. of  $\text{I}$  and then heated to expel

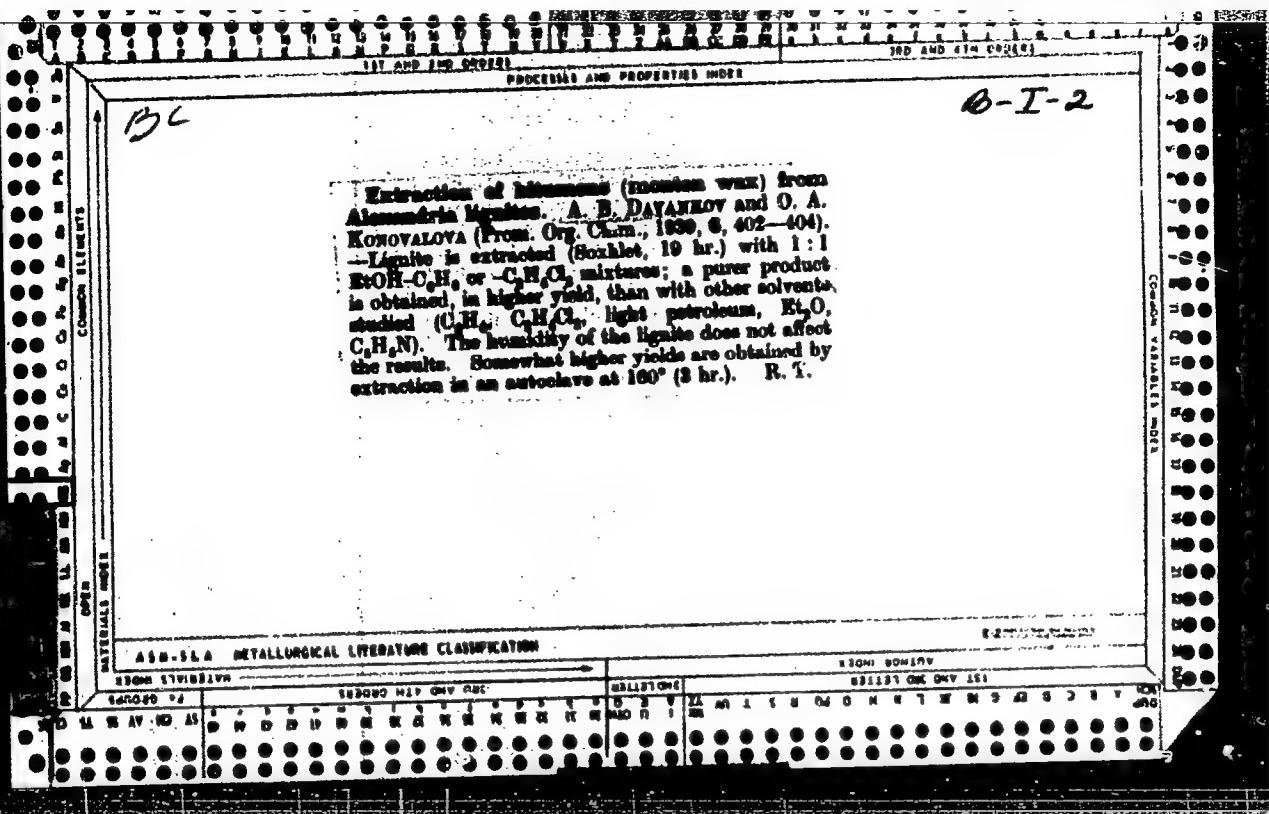
21

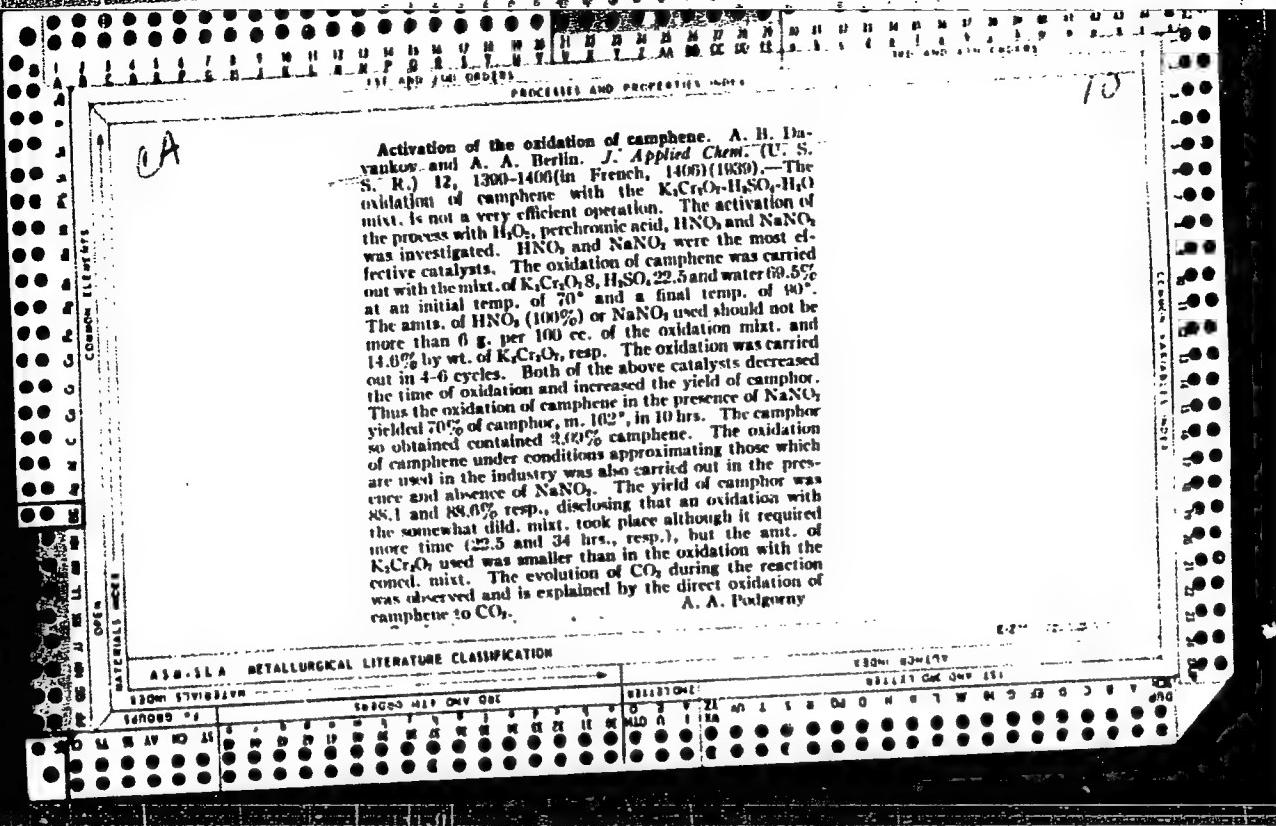


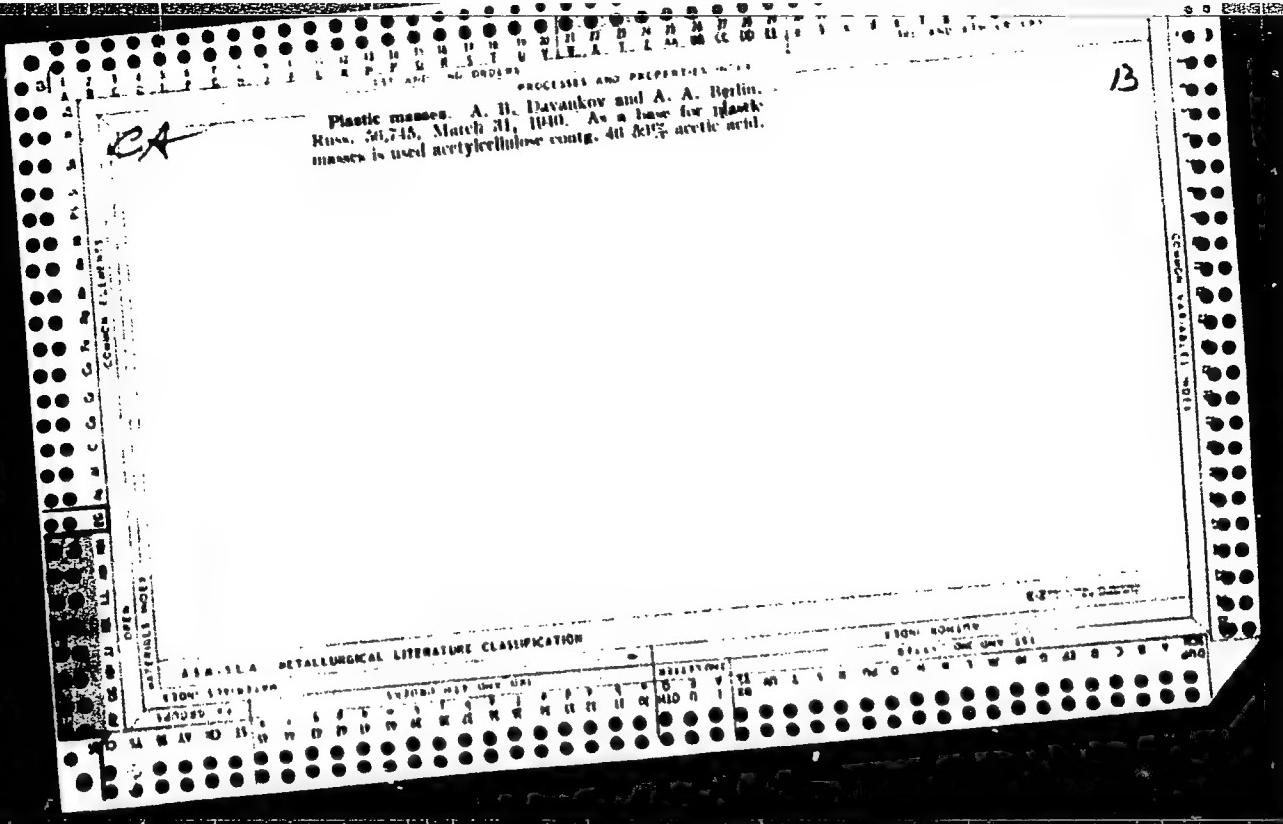
13

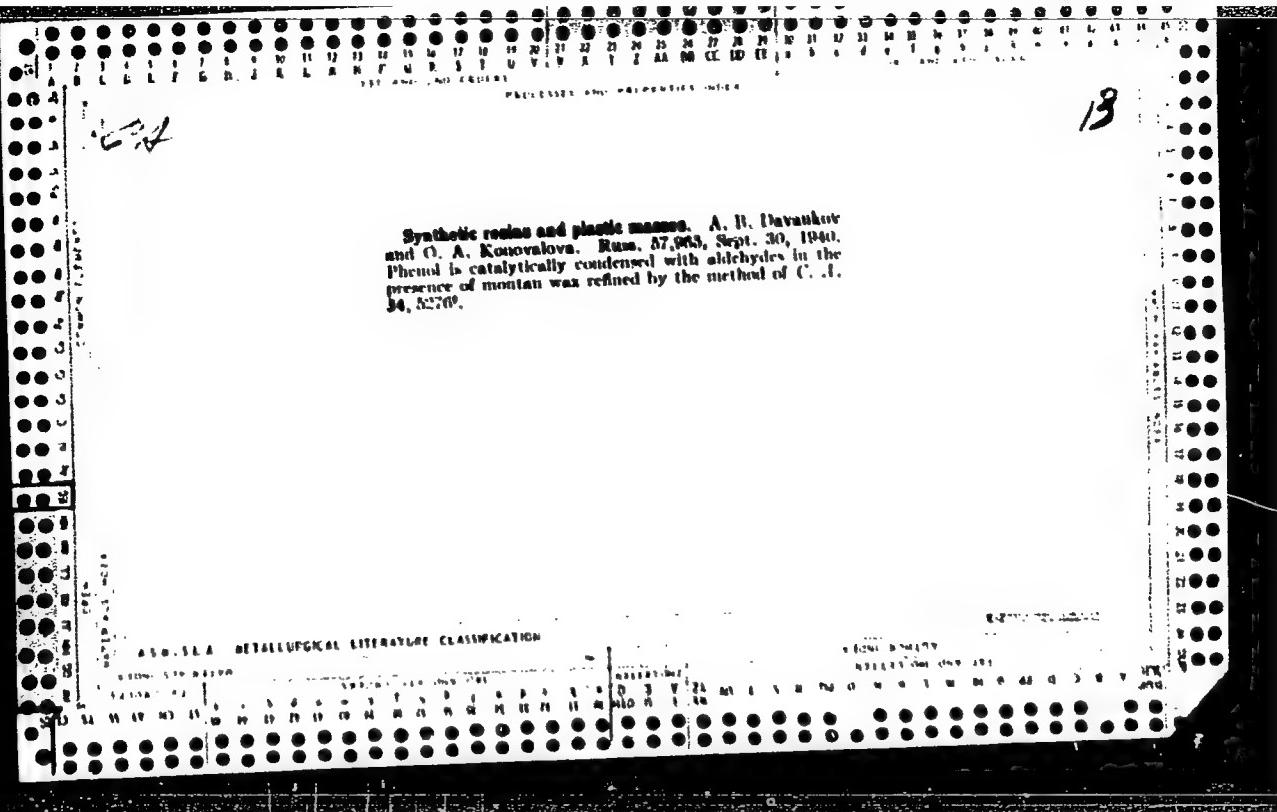
**Galath from vegetable proteins.** A. B. Davyukov,  
N. A. Antropova and A. S. Gulyayev. (Vg. Chem. Tsvet.  
U. S. S. R.) 6, 177-81 (1939). - About 80-90% of available  
proteins can be extd. from water-soaked bean flour  
(contg. 20% protein) by 4 alternate treatments with 0.2  
N NaOH and pptn. with 0.2 N AcOH contg. 1% CaCl<sub>2</sub>.  
The product when washed with water and alc. and dried  
in air at room temp. forms a pale-brown powder, contg.  
.07% H<sub>2</sub>O and 4.40% fats; acidity 00%. Its mixt. with  
20% of milk casein when pressed in a hydraulic press and  
then treated with 3% CH<sub>3</sub>O formed disks comparable in  
their color and mech. strength with the products obtained  
from com. galath. Chas. Blanc

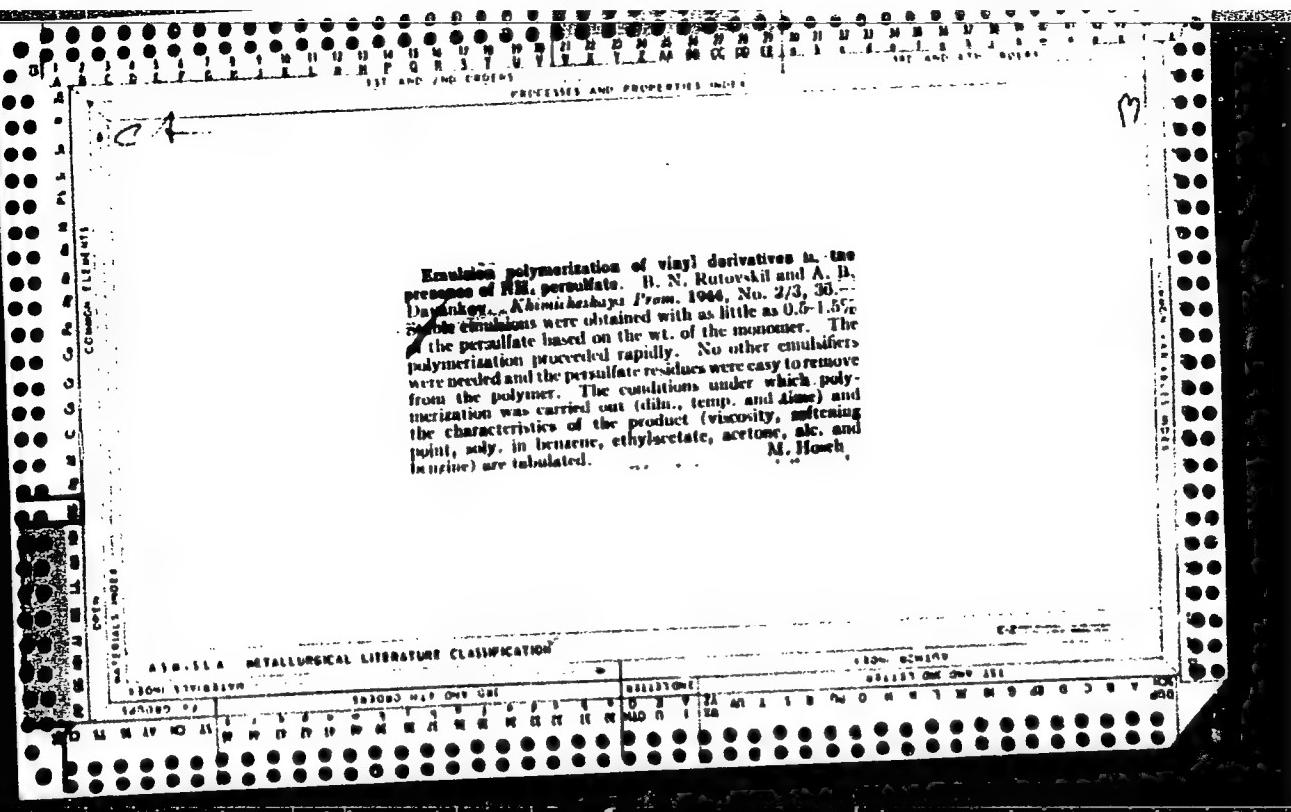


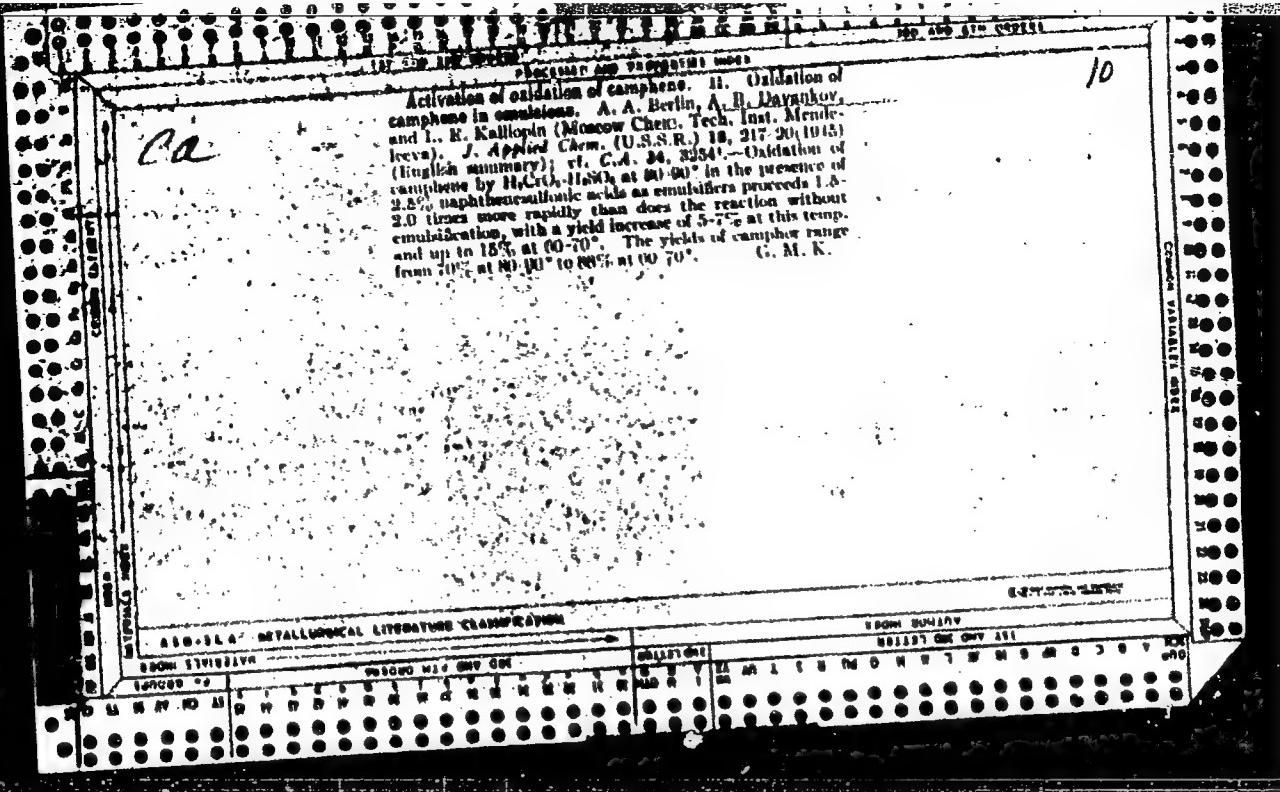


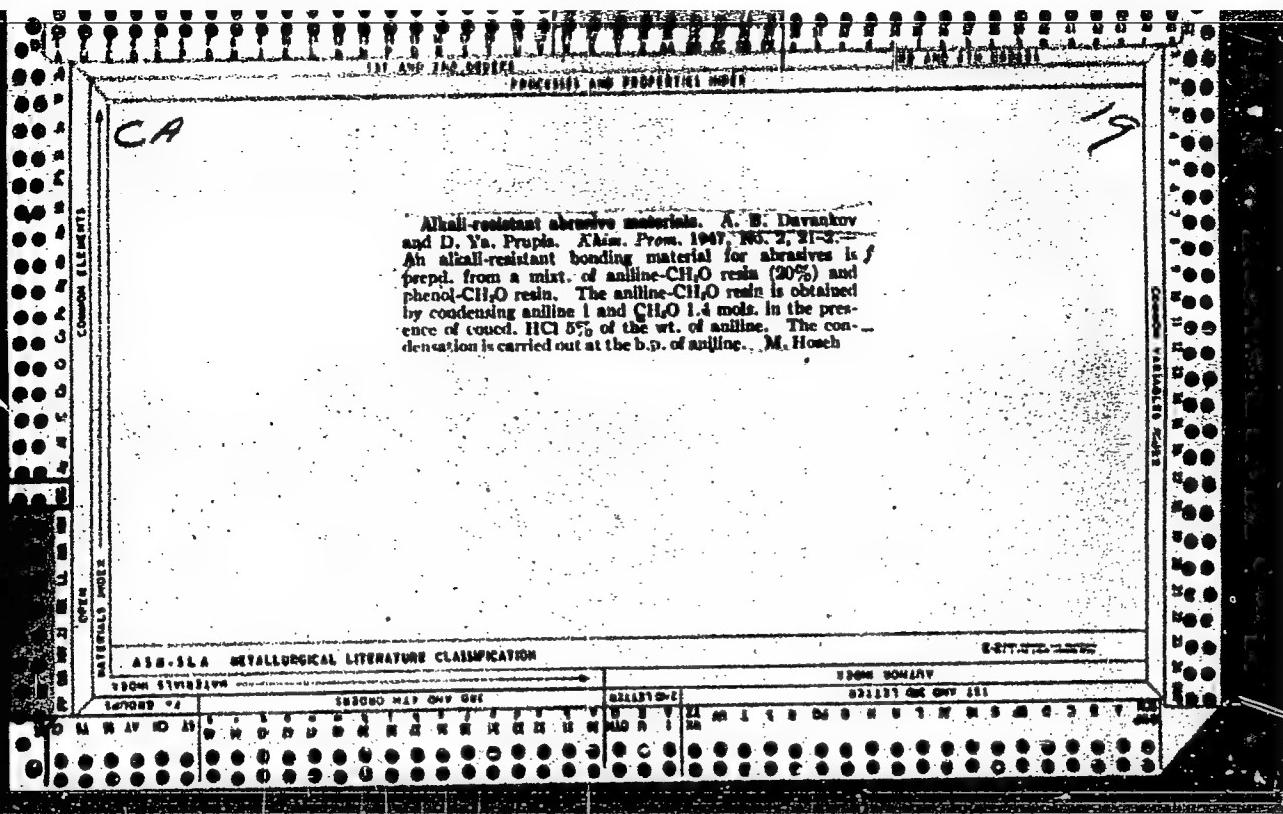












DAVANKOV, A.B., kandidat tekhnicheskikh nauk; PRUPIS,D.Ya., mladshiy  
nauchnyy sotrudnik

Lye-resistant abrasive materials. Khim.prom.no.2:53-54 F'47.  
(Abrasives) (MIRA 8:12)

(A)

51

Coloring polymerized resins in the finely dispersed state  
and the selective adsorption of dyes by synthetic resins.  
A. B. Davydov, V. P. Peresypkin, and E. A. Sobolova.  
(D. I. Mendeleev Chem.-Tech. Inst., Moscow). *Zhur.*  
*Vysokomol. Khim.* 24, 98-107 (1981).—Polymers were made by  
emulsion polymerization of methyl methacrylate or styrene  
or copolymerization of methyl methacrylate and vinyl  
acetate, with  $(\text{NH}_4)_2\text{S}_2\text{O}_8$  as a catalyst. The polymers  
were colored in the form of aq. dispersions by addn. of basic  
dyes (crystal violet, fuchsin, or methylene blue) to the dis-  
persions. The coloring process may result from chem. inter-  
action between the basic dye and the acidic polymer. This  
conclusion was based on the following observations: (1)  
The use of permanganate catalyst produces polymers of acidic  
character (1-4 acid groups per polymer mol.). (2) Polymer  
is ppnd. on coloration. (3) The colored complex has a high  
stability to the action of light and chem. reaction. (4)  
The colored polymer dissolves in org. solvents to form colored  
solns., even in the case of solvents in which the basic dye  
by itself is practically insol.

H. K. Livingston

DUBININ, M.M., akademik, otvetstvennyy redaktec; GAPON, Ye.N.; GAPON, T.B.;  
ZHYPAKHINA, Ye.S.; RACHINSKIY, V.V.; BELEN'KAYA, I.M.; SHUVAEVA, G.M.;  
ROGINSKIY, S.Z.; LANOVSKIY, N.I.; FUKS, N.A.; KISELEV, A.V.; NEYMARK, I.Ye.;  
SLINYAKOVA, I.B.; KHATSET, F.I.; LOSEV, I.P.; TROSTYANSKAYA, Ye.B.;  
TEVLINA, A.S.; DAVANKOV, A.B.; SALDAKOV, K.M.; BRUMBERG, Ye.M.; ZHIDKOVA,  
Z.V.; VEDENEEVA, N.Ye.; KAPOL'SKIY, S.A.; MIKHAYLOVA, Ye.A.; KAZANSKIY, B.A.;  
RYABCHIKOV, D.I.; SHENYAKIN, F.M.; KRETOVICH, V.L.; BUNDEL', A.A.; SAVINOV,  
B.G.; VENDT, V.P.; EPSTEIN, Ya.A.

[Research in the field of chromatography transactions of the All-Union  
Conference on Chromatography, November 21-24, 1950] Issledovaniia v oblasti  
khromatografii; trudy Vsesoiuznogo soveshchaniia po khromatografii, 21-24  
noiabria 1950 g. Moskva, Izd-vo Akademii nauk SSSR, 1952. 225 p.  
(MILR 6:5)

1. Akademiya nauk SSSR. Otdelenie khimicheskikh nauk.  
(Chromatographic analysis)

DAVANKOV, A.B.; SOKOLOVA, Ye.A.

Casting properties of emulsion polymethyl methacrylate. Zhur. Priklad. Khim. 26, 217-20 '53. (MLRA 6:3) (CA 47 no. 21:11798 '53).

DAVANKOV A.B.

USSR.

Selective adsorption of dyes by synthetic resin. II.  
A. N. Davankov. J. Appl. Chem. U.S.S.R. 26, 1291-7  
(1953) (Eng. translation). See C.A. 49, 601a. H. L. Li

DAVANKOV, A. B.

Davankov, A. B., "Ob imbiratel'noi adsorbsii krasitelei iskusstvennymi smolami", Selective adsorption of dyes by synthetic resins, Zhur. Prikl. Khimii, Vol 26, No. 12, pp 1290-98, Dec. 1953

Study of dying hydrophobic resins by aqueous solutions of organic dyes. It was found that the polymers of vinyl chloride, in presence of peracidic substances exhibit pronounced adsorbative properties with respect to basic dyes. Acid and direct dyes do not extract polyvinyl chloride from its aqueous solutions. It is possible to separate dyes using polyvinyl chloride. Chemical similarity between basic dyes and polyvinyl chloride indicate the presence of functional groups.

NY 67-54

DAVANKOV, A. B.

New methods of dephenolation of industrial waste waters.  
A. B. Davankov and N. E. Orneva (D. I. Mendeleev  
Chemical Technol. Inst., Moscow). *Gigiena i Sanit.* 1954,  
No. 2, p. 9-15. Anion-exchange resins are satisfactory for  
the removal of phenols from samples of industrial waste  
liquor on the lab. scale. The most satisfactory resins of  
local manuf. are MPVKH, N-O, TN, PE-9, and BDE-10.  
For regeneration of the resins, the solns. of NaOH or NH<sub>4</sub>OH  
are used. The concn. of phenols in the regeneration liquor  
is below 12%. G. M. Kosolapoff

(3)

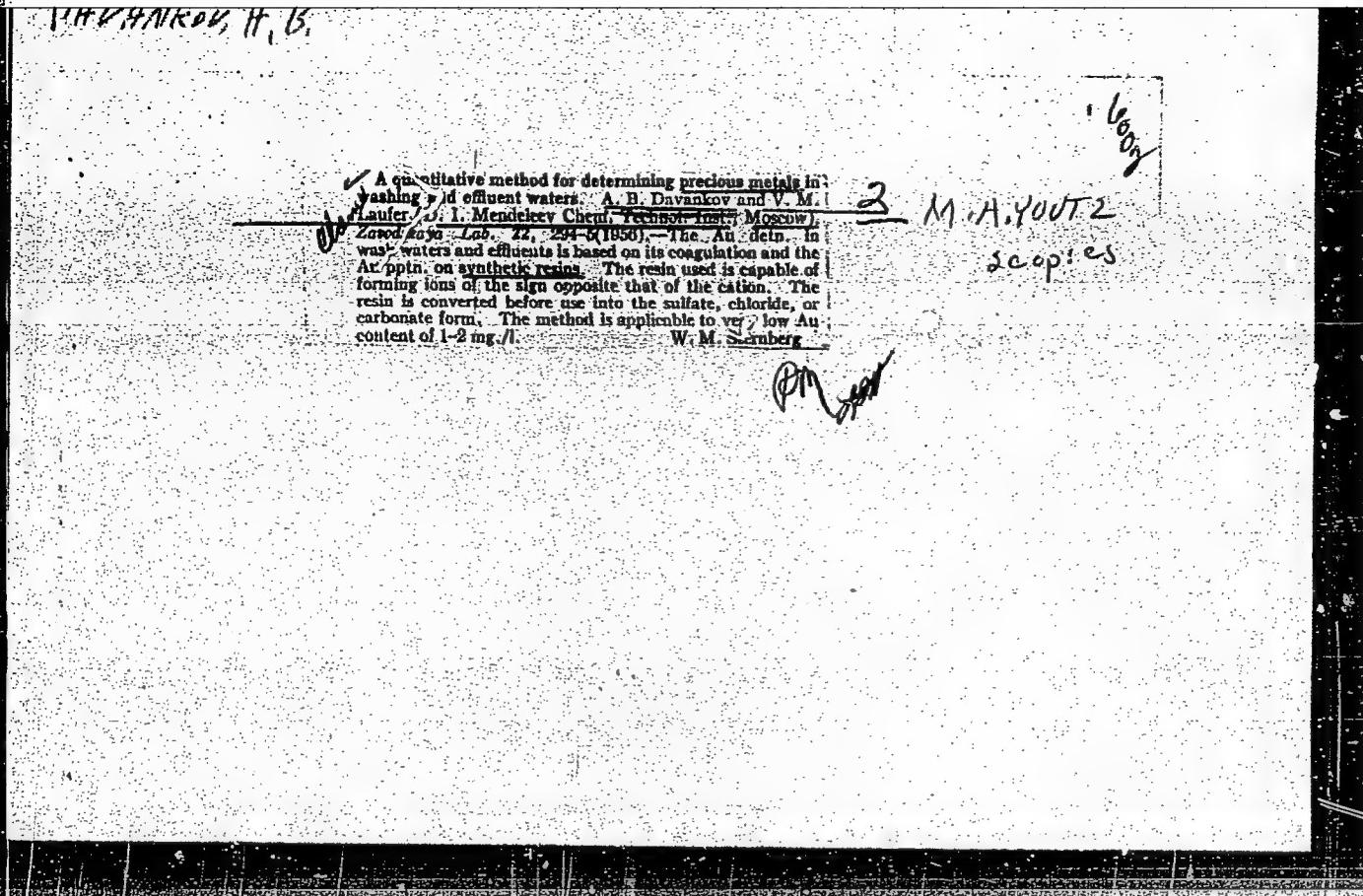
DAVANKOV, A. B.

"Concerning the Extraction of Phenol From Aqueous Solutions by Means of Anionite Resins," an article included in the book "The Theory and Practice of the Application of Ion-Exchange Agents," edited by K. V. Chmukov and published by the AS USSR, 1955, 164 pp.

DAVANKOV, A.B.

Selective adsorption of dyes by synthetic resins. Soob.o nauch.rab.  
chл.VKHO no.1:32-38 '55. (MIRA 10:10)

(Dyes) (Adsorption) (Resins, Synthetic)



DAVANKOV, A.B.

G-2

USSR/ Analytical Chemistry - Analysis of Inorganic Substances

Abs Jour : Referat Zhur - Khimiya, No 4, 1957, 12045

Author : Davankov A.B., Laufer V.M.  
Title : Determination of Precious Metals by Means of Ionites

Orig Pub : Zavod. laboratoriya, 1956, 22, No 7, 788-789

Abstract : Small amounts of Au and Ag (fractions of mg per liter) are separated from cyanide solutions with an anionite. Solution of pH 3.5, containing  $KAg(CN)_2$  or  $HAuCl_4$ , is passed through an adsorption column filled with anion-exchange resin NO in the chloride form. In the case of solutions containing 0.5-20 mg/liter Au, fed into an adsorption column 7-8 mm in diameter, with a resin layer 250-300 mm in depth, rate of filtration must not exceed 15 ml/minute. With solutions containing large excess of mineral salts or organic admixtures the rate of filtration must be decreased. The amount of solution that is filtered through the adsorbent is determined by the initial

Card 1/2

Extraction of metallic gold from industrial waste with synthetic resins. A. B. Davantsov and V. M. Laufer. *Zhur. Priklad. Khim.* 29, 322 (1955). It was shown that highly porous specimens of Soviet-made anion exchange resins were effective in extr. of Au from waste liquors. After combustion of the resin, from 84% to 100% Au was recovered. The basic liquors were made slightly acid with HCl and were stirred with the powd. resins 3-5 hrs., after which the residue was sepd., washed, and ignited.

G. M. Kosolapoff

DAVANKOV, A.B.; LAUFER, V.M.

Ion exchange and the distribution of gold ions in resinous absorbents.  
TSvet.met.29 no.11:1-6 N '56.. (MLRA 10:1)  
(Ion exchange) (Gold)

DR VENKOV, A. B.

► Ion-exchange recovery of gold from solutions by means of synthetic resins. A. B. Davankov and V. M. Lauer [Zh. fiz. khim., 1959, 29, 1029-1035]. "N=O" anion-exchange resins, in hydroxyl (I), carbonate (II) and sulphate (III) forms, with grain size 0.5-0.8 mm., were used for the recovery of gold from pure eq. solutions of  $KAu(CN)_4$ , and from industrial wastes (chiefly from plating baths). Amount of gold in solutions was 24 mg./l., pH 7 with filtration rate 10 ml/min. and resin layer depth 190 mm. 98.9% recovery of gold was achieved by II; I and III yielded 91.0%. When resin depth was 180 mm., at pH 8, gold recovery was 97.22% (II) and 74.21% (III). By decrease of pH from 7 to 6.5, inclusion content of resins in pure solutions of  $KAu(CN)_4$  was more than doubled in some cases. In all cases the percentage recovery from industrial wastes was proportionately less. A. L. B.

MET  
Chem

DAVANKOV, A. B.

CHMUTOV, I.V., otvetstvennyy redaktor; SHEMYAKIN, F.M., professor, otvet-  
stvennyy redaktor; DAVANKOV, A.B., redaktor; RACHINSKIY V.V.,  
redaktor; SALDAIZE, T.M., redaktor; SENOVA, P.L., professor, re-  
daktor; TROSTYANSKAYA, Ye.V., professor, redaktor; YEGOROV, N.G.,  
redaktor izdatel'stva; ASTAF'IEVA, G.A., tekhnicheskiy redaktor.

[Studies in ion-exchange chromatography; work of the conference  
on the application of ion-exchange chromatography in medical and  
food industry] Issledovaniia v oblasti ionoobmennoi khromatografii;  
trudy soveshchaniia po primeneniui ionoobmennoi khromatografii v  
meditsinkoi i pishchevoi promyslennosti. Moskva, 1957. 193 p.  
(MIRA 10:6)

1. Akademiya nauk SSSR. Komissiya po khromatografii. 2. Chlen-ker-  
respondent Akademii nauk SSSR (for Chmutov)  
(Ion exchange) (Chromatographic analysis)

DAVANOV, A. B.

7  
Anion-exchange substance. A. D. Davankov and T.  
V. V. Vlasov. U.S.S.R. 103,757, May 23, 1957. An anion-  
exchange substance is obtained by treating sulfonated cat-  
ion-exchange resins, such as sulfonated coal, with a 3-6-  
fold excess of  $\text{NH}_4\text{OH}$  or an amide at about  $200^\circ$  and 30 atm.  
for several hrs.  
M. Hesch

3  
HE4J

Davyanov, A.B.

✓ Removal of chloride ions from amino acids. A. B. Davyantov and V. M. Laufer. U.S.S.R. 107,251, Sept. 20, 1967. Chloride ions are completely removed from amino acids by treating the latter with amphoteric ion-exchanging synthetic resins charged with heavy metals, e.g. Ag or Pb, capable of forming insol. salts with chloride ions.

M. Hesch

4  
1-4E4j

SOV/137-58-8-16648

Translation from: Referativnyy zhurnal, Metallurgiya, 1958, Nr 8, p 58 (USSR)

AUTHORS: Davankov, A.B., Laufer, V.M.

TITLE: Recovery of Precious Metals by Ion Exchange and Secondary Processes Occurring in Ion Exchangers (Izvlecheniye dragotennykh metallov s pomoshch'yu ionnogo obmena i vtorichnykh protsessov, osushchestvlyayemykh na ionitakh)

PERIODICAL: V sb.: Materialy Soveshchaniya po primeneniyu ionnogo obmena v tsvetn. metallurgii. Moscow, 1957, pp 73-79

ABSTRACT: A device for saving Au from industrial caustic solutions by adsorption on anionite resins of low swelling capacity, porous structure, and fundamental properties favorable both to ion exchange and to adsorption, has been developed and tested successfully under industrial conditions. Dissociation of such anionites in aqueous solutions with formation of cations of low mobility facilitates coagulation of Au and ensures speed and completeness in precipitation thereof on the adsorbent. The resin is separated from the solution by means of a Nutsche filter. Joint ion exchange and reduction by hydroquinone was applied to Ag and Au solutions. This significantly increased

Card 1/2

SOV/137-58-8-16648

Recovery of Precious Metals by Ion Exchange (cont.)

the absorptive capacity of "H-O" anionite and made it possible to extract up to 112.8% Ag and 114.6% Au relative to the weight of dry resin (and this did not even exhaust its absorptive capacity). It proved possible to extract up to 72% of the Au in sea water when 50 g resin was used per 500 liter of solution, but the resin was contaminated by Fe salts. The "H-O" resin is suited to recovery of Au from highly-contaminated, exhausted caustic electrolytes, but regeneration of the resin by the usual means is not possible. "H-O" resin permitted the extraction of 80-90% Au from a solution of Au resinate in turpentine containing 3.5 g Au per liter.

Ye.Z.

1. Gold--Recovery    2. Silver--Recovery    3. Ion exchange resins--Performance

Card 2/2

Secondary processes of amphoteric ionites and the possibility of their practical utilization. A. D. Davankov, V. M. Laufer, and L. A. Sina. Zhur. Priklad. Khim. 30, 230-44 (1957). - The exch. of cation Ag and anion Au from aq. solns. by a synthetic amphoteric resin "BST" was investigated. The resin contained 10.2% w/w S, of which not more than 1/2 was in the active group SO<sub>3</sub>H. The resin, white, d. 1.13, increased in vol. by 12% on swelling in H<sub>2</sub>O. The acid form was treated with 5% NaOH, and AgNO<sub>3</sub> was filtered through a column (d. 0.5A) for 8 cycles and eluted with 0.1M NH<sub>4</sub>OH. At each cycle filtration of 0.1M AgNO<sub>3</sub> was done. After 22 cycles, the resin was washed with 5% NH<sub>4</sub>OH, stopped and 25 ml. of a soln. of hydroquinone contg. AgNO<sub>3</sub> stopped and 25 ml. of a soln. of hydroquinone contg. AgNO<sub>3</sub> was filtered through. The adsorptive capacity of the resin decreased with each cycle, but it was not exhausted at the end of the 22nd cycle, having adsorbed 107% of its own wt. of Ag, visible as cryst. metallic. After 4 cycles of 0.01M AgNO<sub>3</sub>, with "resting" periods from 3 hrs. to 3 days between cycles, the resin was washed with 5% HCl, converting it to the chloride form (HO<sub>3</sub>SRNH<sub>3</sub><sup>+</sup>Cl<sup>-</sup>) and a soln. of [KAu(CN)<sub>4</sub>] contg. 20 mg. Au/l., pH 3.5, was filtered through the column. After burning the resin, 0.380 g. Au and 0.394 g. Ag were recovered (dry wt. of resin 5 g.).

J. Rennert

for a / RM amb

AUTHORS:

Davankov, A. B., Zambrovskaya, Ye. V., SOV/156-58-2-42/48  
Borzenkova, S. Ya.

TITLE:

On Granular Polycondensation and on Polymerization in the  
Production of Ionites (O granul'noy polikondensatsii i  
polimerizatsii v proizvodstve ionitov)

PERIODICAL:

Nauchnyye doklady vysshey shkoly. Khimiya i khimicheskaya  
tekhnologiya 1958, Nr 2, pp. 369-372 (USSR)

ABSTRACT:

The shape and the physical properties of the particles of the synthetic resins used as ionites are of great importance for practical application. Most of the ion exchanging resins have hitherto been produced as grains of irregular shape (with sharp edges). They are obtained by crushing the solidified polymer. The 10 - 15% of dustlike waste forming in this connection cannot (with one minor exception, Ref 1) be properly used in industry. The costs for their application as fertilizers in agriculture are too high (Ref 2). The Polycondensation mentioned in the title is based on the solidification of the polymers in liquid state. Thus, crushing

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On Granular Polycondensation and on Polymerization  
in the Production of Ionites

SOV/156-58-2-42/48

is not necessary and the waste decreases to 0,3 - 0,5%. According to temperature, intensity of mixing and the properties of the surface-active substances in the solution, ionites can be obtained as spheres of different size. This shape of ionites has a number of advantages as compared to that of the irregular grains. The problem of the methods of production of such spherical ionites has not been sufficiently elucidated in publications (Ref.3). The authors made it their object to produce several already known and several new anionites of spherical shape. Final solidification was obtained by an additional heating of the polymer in liquid state in different media: oils, benzene, glycerine, saturated NaCl- and CaCl<sub>2</sub>- solutions and others. The best results were obtained by using transformer oil as solidifying medium. On contacting the oil the polymer drops are covered by an oil film which prevents the coagulation of individual drops and thus the formation of greater aggregations. At a temperature of 60 - 65° and with intensive mechanical stirring

Card 2/3

On Granular Polycondensation and on Polymerization  
in the Production of Ionites

SOV/156-58-2-42/48

(propeller mixer 200 rev/min) solidification of the drops was completed after 1 - 1,5 hours; in conclusion further conditions for an optimum quality of the spherical ionites are given. There are 1 figure and 4 references, 3 of which are Soviet.

ASSOCIATION: Kafedra tekhnologii plastmass Moskovskogo khimiko-tehnologicheskogo instituta im. D. I. Mendeleyeva (Chair for Technology of Plastics of the Moscow Institute of Chemical Technology imeni D. I. Mendeleyev)

SUBMITTED: October 5, 1957

Card 3/3

DAVANKOV, A.B.; LAUFER, V.M.; RAZGIL'DEV, N.Ye.

Extraction of gold from discharge electrolytic solutions by  
ion exchange. Zhur.prikl. khim. 31 no.3:494-497 Mr '58.  
(MIRA 11:4)

(Gold) (Extraction (Chemistry)) (Ion exchange)

SOV/136-58-5-15/22

AUTHORS: Davankov, A.B., Laufer, V.M., Tarusin, V.P.,  
Neginskiy, O.Ye and Ruzhnikov, M.S.

TITLE: A Pilot-plant Scale Experiment on the Extraction of  
Gold from Ion-exchange Resins After Adsorption  
(Polupromyshlennyy opyt vydeleniya zolota iz ionobmennykh  
smoi posle adsorbsii)

PERIODICAL: Tsvetnyye Metally, 1958,<sup>31</sup> Nr 5, pp 81 - 82 (USSR)

ABSTRACT: The authors discuss some examples of gold recovery from  
ion-exchange resins being effected after ashing the resin.  
They describe work at an enterprise controlled by the  
Ministerstvo finansov SSSR (Finance Ministry of the USSR)  
in which gold was extracted from spent electrolytes with  
the aid of type N-O resin in two 1 665-mm high tubes  
(73 mm dia.) in series. 97.6 litres of spent cyanide  
electrolyte was passed at 10 litres/hour and an ash  
containing 73% gold was finally obtained. The gold was  
extracted from the ash by high-frequency melting under  
borax in a graphite crucible in separate portions. The  
experimental data are tabulated, showing 99.81% recovery of

Card 1/2

SOV/136-58-5-15/22

A Pilot-plant Scale Experiment on the Extraction of Gold from Ion-exchange Resins After Adsorption

the gold present in the original solution. The authors found that with careful ashing in ceramic vessels and fusion under borax, complete extraction of the gold from the ashed residue was obtained.

There are 1 table and 4 Soviet references

1. Ion exchange resins--Adsorptive properties
2. Gold--Processing
3. Gold--Production
4. High frequency heating--Applications

Card 2/2

DAVANKOV, A.B.

[Grigorii Semenovich Petrov] Grigorii Semenovich Petrov.  
Moskva, Izd-vo Mosk. khimiko-tehnologicheskogo in-ta,  
1959. 31 p. (MIRA 16:11)  
(Petrov, Grigorii Semenovich, 1886-1957)

5(2), 18(6)

SCV/156-59-1-52/54

AUTHORS:

Davankov, A. B., Laufer, V. M.

TITLE:

On New Methods of the Concentration of Gold on Ion Ex-changers by the Aid of Ion Exchange and of Redox Processes  
(O novykh metodakh kontsentrirovaniya zolota na ionitakh s pomoshch'yu ichnuogo obmena i okislitel'no-vosstanovitel'nykh protsessov)

PERIODICAL:

Nauchnye doklady vysshykh shkoly. Khimiya i khimicheskaya tekhnologiya, 1959, Nr 1, pp 202 - 205 (USSR)

ABSTRACT:

The adsorption of the gold salts  $\text{HAuCl}_4$  and  $\text{NaAu}(\text{CN})_2$  on synthetic resin anion exchangers "N-O" and "TN", and the elution of these salts by thiourea or hydrochloric acid in acetone and ethyl alcohol are investigated. The results are listed in tables. The complex  $\text{AuCl}_4^-$  salts could be reduced by hydquinone. This reduction re-liberates the ionogenic groups of the exchanger and re-establishes its exchange capacity. With the  $\text{Au}(\text{CN})_2^-$ -ions the reduction could not be effected. These salts could, however, be removed from the resin by weak basic solutions or by mineral acids.

Card 1/2

On New Methods of the Concentration of Gold on Ion  
Exchangers by the Aid of Ion Exchange and of Redox Processes

SCV/156-59-1-52/54

In general, quantitative gold elutions could not be effected  
(Table). The total gold content could be preserved only by  
the burning of the resin. There are 2 tables and 3 Soviet  
references.

ASSOCIATION: Kafedra tekhnologii plastmass Mezhevskogo khimiko-tekhnolo-  
gicheskogo instituta im. D. I. Mendeleyeva (Chair of the  
Technology of Plastics of the Moscow Institute of Chemical  
Technology imeni D. I. Mendeleyev)

SUBMITTED: May 27, 1958

Card 2/2

5(3), 15(8)

AUTHORS:

Davankov, A. B., Babchinitser, T. M., SOV/156-59. 2-17/48  
Borzenkova, S. Ya.

TITLE:

Innergranular Chemical Transformations in the Copolymeres  
of Styrene With Divinylbenzene (O vnutrigranul'nykh khimi-  
cheskikh prevrashcheniyakh v sopolimerakh stirola s divinil-  
benzolom)

PERIODICAL:

Nauchnyye doklady vysshey shkoly. Khimiya i khimicheskaya  
tekhnologiya, 1959, Nr 2, pp 363-367 (USSR)

ABSTRACT:

The authors investigated two forms of the chemical reaction  
in the polymeres mentioned in the title, which were used in  
granulated form (diameter 0.25-2.0 mm): 1) Nitriding with  
following reduction of the nitrogen group, and 2) Chloro-  
methylating with following substitution of the chlorine atoms  
through aminogroups. Copolymeres with a content of 2, 3, 4,  
and 10 % divinylbenzene were nitrided. After nitriding, the  
nitrogen content averaged 12-14 % (Table 1). A high content  
of divinylbenzene aggravated the nitriding and resulted in  
a lower nitrogen content. The nitrided granulate was of yellow  
color and its mechanical hardness decreased. The reduction  
was carried out - after an unsatisfactory trial with zink -

Card 1/3

Innergranular Chemical Transformations in the  
Copolymers of Styrene With Divinylbenzene

SOV/156-59-2-37/48

with tin (II) chloride in hydrochloric acid. With increasing interlacing of the copolymers, the force of the reaction decreases (Table 2). The static anion-interchangeability of the best resin test-pieces amounted to 6.25 mg-equiv/g for 0.5-normal hydrochloric acid and 7.75 mg-equiv/g for 0.5-normal sulphuric acid. During the second series of tests, copolymers with a divinylbenzene content of 2, 4, 6, 8, and 10 % were treated with chloromethylether (Table 3) and their chlorine content was determined. The copolymers with a Cl-content of 18-19 % were substituted with trimethylamine. The rest-content of chlorine amounted to 7-10 %, the nitrogen content to 2-2.5 %. When treated with pyridine instead of trimethylamine, the copolymers contained 9 % chlorine and also 2-2.5 % N. The static anion-interchangeability was 2-3 mg-equiv/g for 0.1-normal hydrochloric acid. There are 3 tables and 4 references, 2 of which are Soviet.

Card 2/3

Innergranular Chemical Transformations in the  
Copolymers of Styrene With Divinylbenzene

PRESENTED BY: Kafedra tekhnologii plastmass Moskovskogo khimiko-tehnolo-  
gicheskogo instituta im. D. I. Mendeleyeva (Chair for the  
Technology of Plastics Moscow Institute of Chemical Technology  
imeni D. I. Mendeleyev)

SOV/156-59-2-37/48

SUBMITTED: December 11, 1958

Card 3/3

S/081/60/000/019/007/012  
A006/A001

Translation from: Referativnyy zhurnal, Khimiya, 1960, No. 19, p. 522, # 79369

AUTHORS: Davankov, A. B., Zambrovskaya, Ye. V.

TITLE: The Use of Acid Esters of Dithiocarbonic Acid as a New Type of  
Ion-Exchanging Material

PERIODICAL: Tr. Mosk. khim.-tekhnol. in-ta im. D. I. Mendeleyeva, 1959, No. 29,  
pp. 72-82

TEXT: The possibility was established of converting water-soluble salts of various acid esters of dithiocarbonic acid (ethyl and butylxanthogenate of potassium, cellulose xanthogenates, polyglycerins, polyvinyl alcohol and its copolymers with malein anhydride) into a non-soluble form by means of adsorption on the "H-O" resin. The authors studied the exchange capacity of ionites obtained under dynamical conditions from  $\text{AgNO}_3$  solutions. Ways were found of concentrating on the aforementioned adsorbents great amounts of silver with the use of reducing agents (19 - 31 mg-equ/g). A synthesis was developed of a condensation MMC (MMS) resin containing sulfohydril groups (5.76% S). Investigations

Card 1/2

S/081/60/000/019/007/012  
A006/A001

The Use of Acid Esters of Dithiocarbonic Acid as a New Type of Ion-Exchanging Material

were made of the sorption capacity of the resin (granulated and non-granulated) with respect to  $\text{Ag}^+$  cations at 20 and  $60^\circ\text{C}$  and of the possibility of extracting silver out of the column.

Ye. Zambrovskaya

Translator's note: This is the full translation of the original Russian abstract.

Card 2/2

S/081/61/000/C01/014/017  
A005/A105

Translation from: Referativnyy zhurnal, Khimiya, 1961, No. 1, p. 515, # 1P39

AUTHORS: Davankov, A.B., Davankova, D.A.

TITLE: On the Problem of Chemical Transformations of Polyvinyl Alcohol

PERIODICAL: "Tr. Mosk. khim.-tekhnol. in-ta im. D.I. Mendeleyeva", 1959, No. 29, pp. 93 - 98

TEXT: The authors investigated some chemical transformations of polyvinyl alcohol. Hereat benzyl ethers of polyvinyl alcohol were obtained with a high content of benzyl groups (66.4%), and their properties were studied. Chloromethylated derivatives of the benzyl ethers of polyvinyl alcohols were obtained. It is established that the disintegration of the polymers in consequence of nitrating of the benzyl ethers of polyvinyl alcohol and subsequent reduction of the nitro groups into amino groups is observed, which leads to compounds that are soluble in alkali hydroxides; highmolecular quaternary ammonium bases with exchange capa-

Card 1/2

S/081/61/000/002/014, 117  
A005/A105

On the Problem of Chemical Transformations of Polyvinyl Alcohol

city for 1 n-solution of HCl 1.5 mg-equ./g were obtained by chloromethylizing of ordinary benzyl ethers of polyvinyl alcohol with their subsequent treatment with trimethyl amine hydrochloride.

E. T.

Translator's note: This is the full translation of the original Russian abstract.

Card 2/2

ZUBAKOVA, L.B.; DAVANKOV, A.B.

Chemical conversions in granular 2-methyl-5-vinylpyridine-divinylbenzene copolymers and other cross-linking agents. Trudy MKHTI no.29:99-107 '59.  
(Polymers) (Pyridine) (Benzene)

(MIRA 13:11)

DAVANKOV, A.B.; ZAMBROVSKAYA, Ye.V.

Extracting silver by ionites modified by the adsorption of xanthic acid. Izv. vys. ucheb. zav.; tsvet. met. 2 no.3:82-88 '59.  
(MDIA 12:9)

1. Moskovskiy khimiko-tehnologicheskiy institut, Kafedra tekhnologii plastmass.  
(Silver) (Ion exchange)

DAVANKOV, A.B.; LAUFER, V.M.; RAKITIN, S.V.; LEVIAN, L.G.; CHERNOBAY,  
A.I.

Recovery of noble metals by anion-exchange resins from waste  
and industrial solutions of electrolytic copper plants. Izv.  
vys.ucheb.zav.; tavet.met. 2 no.6:134-141 '59.  
(MIRA 13:4)

1. Moskovskiy khimiko-tehnologicheskij institut. Kafedra  
tehnologii plastmass.  
(Copper industry--By-products) (Ion exchange)  
(Precious metals--Metallurgy)

5(2)

SOV/80-32-4-5/47

AUTHORS: Davankov, A.B., Saufer, V.M.

TITLE: On the Problem of Elution of Precious Metals From Anionites  
After Adsorption (K voprosu ob elyuirovani i blagocrodnykh  
metallov iz anionitov posle adsorbsii)

PERIODICAL: Zhurnal prikladnoy khimii, 1959, Vol 32, Nr 4; pp 727-734  
(USSR)

ABSTRACT: The elution and relative resistance to reducing agents of complex ions ( $\text{AuCl}_4^-$ ,  $\text{Au}(\text{CN})_2^-$ ) adsorbed on anionites is investigated here. The  $\text{AuCl}_4^-$  ions adsorbed on a "H-O" anionite are easily reduced to metal by hydroquinone. They accumulate on the resin after several sorption cycles in the quantity of more than 5 mg-equ. per gram of adsorbent. The  $\text{Au}(\text{CN})_2^-$  ions are displaced by the solutions of sodium sulfide, hydrosulfide and hydrosulfite without reduction. This indicates the high resistance of cyanide anions to reduction and deposition action of these agents. It is known that thiourea enters into the reaction of complex formation with metals, the sulfides of which are insoluble in water. The thiourea complexes are easily decomposed in weakly alkaline solutions with the forma-

Card 1/2

SOV/80..32-4-5/47

On the Problem of Elution of Precious Metals From Anionites After Adsorption

tion of sulfides. It is possible to extract the precious metals completely from resin adsorbents by this method. The best results are obtained with a 10%-solution of thiourea and a 5%-solution of hydrochloric acid. Kurnakov is mentioned in the text.

There are 5 tables, 1 graph, and 2 Soviet references.

SUBMITTED: September 19, 1957

Card 2/2

, 5.3610

75675  
SOV/80-32-10-24/51

AUTHORS: Davankov, A. B., Oratynskaya, A. N., Laufer, V. M.,  
Lipinskiy, A. G.

TITLE: Deionization of Acid Albumin Hydrolysates by Anion-  
Exchange Resins

PERIODICAL: Zhurnal prikladnoy khimii, 1959, Vol 32, Nr 10, pp  
2269-2275 (USSR)

ABSTRACT: Various domestic ion-exchange resins were tested for  
the separation of amino acids from the mineral acids  
residue in casein hydrolyzates. Slightly basic MMG-1  
and AN-2F, medium basic N-O and EDE-10P, and strongly  
basic AV-16 anion-exchange resins were investigated.  
EDE-10P and AN-2F resins gave the best results; the  
adsorption of  $\text{Cl}^-$  and  $\text{SO}_4^{--}$  was complete, and that of  
amine nitrogen insignificant. The degree of deioniza-  
tion can be quickly determined by the pH value of the  
filtrate. When  $\text{pH} < 5.5$ , the deionization is practi-  
cally 100%; at  $\text{pH} = 5.5$  to 3.5, the  $\text{Cl}^-$  content is

Card 1/2

Deionization of Acid Albumin Hydrolysates by  
Anion-Exchange Resins

75675  
SOV/80-32-10-24/51

below 0.2%; pH < 3 shows a low degree of demineralization of the hydrolyzate. The laboratory tests were repeated with practically identical results in a pilot installation with stainless steel filtering column of 5-kg ion-exchange resin capacity. There are 5 tables; 1 figure; and 5 Soviet references.

SUBMITTED: July 21, 1958

Card 2/2

DAVANKOV, Aleksandr Borisovich; FEDCHENKO, V., red.; VOLYNTSEVA, V.,  
tekhn.red.

[Magic grains] Volshebnye zerna. Moskva, Izd-vo TsK VKSM  
"Molodaia gvardiia," 1960. 60 p. (MIRA 13:8)  
(Ion exchange)

5.3830B also 2109, 2209

11.2210

AUTHORS: Davankov, A. B., Zubakova, L. B.

TITLE: Synthesis and Investigation of Highmolecular Tertiary Amines and Quaternary Ammonium Compounds on the Basis of the Copolymers of 2-Methyl-5-vinyl Pyridine With Various "Interlacing" Agents

PERIODICAL: Vysokomolekulyarnyye soyedineniya, 1960, Vol. 2, No. 6,  
pp. 884-890

TEXT: An industrial method of producing 2-methyl-5-vinyl pyridine (Ref. 1) was developed in the Yaroslavskiy nauchno-issledovatel'skiy institut monomerov (Yaroslavl' Scientific Research Institute of Monomers), serving as a basis for producing important types of synthetic rubber (Refs. 2,3). The present investigation deals with the mechanism and the conditions of a copolymerization of 2-methyl-5-vinyl pyridine with divinyl benzene (2-6%) and triethylene glycol dimethacrylic ester (2-20%). The high-molecular tertiary amines obtained were transformed into insoluble quaternary ammonium bases by alkylation, and the products

Card 1/3

83701

S/190/60/002/006/006/012  
B015/B064

83701

S/90/60/002/006/006/012

Synthesis and Investigation of Highmolecular  
Tertiary Amines and Quaternary Ammonium Compounds B015/B064  
on the Basis of the Copolymers of 2-Methyl-5-vinyl  
Pyridine With Various "Interlacing" Agents

obtained subjected to different physico-chemical tests (anion exchange, chemical stability, water absorption, swelling in organic solvents etc). On heating, or irradiating 2-methyl-5-vinyl pyridine with 0.4% of benzoyl peroxide only with a quartz lamp of the NPK -2 (PRK-2) type, the reaction products obtained were only soluble in organic solvents. Copolymerization at 70-80°C (end at 100°C) and a duration of 4-5 h of 100 parts by weight of 2-methyl-5-vinyl pyridine and 4 parts by weight of divinyl benzenes besides 0.4 parts by weight of benzoyl peroxide in suspension resulted in a solid copolymer, insoluble in organic solvents, with weakly alkaline character, and anion exchanger properties (Table 1). Alkylation was carried out in the same cylindrical glass reaction vessel as co-polymerization, with benzyl chloride, para-toluene sulphomethylate, ethyl iodide and methyl iodide being used. Products of benzylation and methylation with para-toluene sulfo acid methyl ester had the highest capacity of exchange. The degree of alkylation rises with the reaction time. An action of strong acid solutions (5 N and 9 N HNO<sub>3</sub>; H<sub>2</sub>SO<sub>4</sub>) and bases (1 N and 9 N NaOH) upon the anion exchangers in the form of tertiary

Card 2/3

83701

Synthesis and Investigation of Highmolecular  
Tertiary Amines and Quaternary Ammonium Compounds S/190/60/002/006/006/012  
on the Basis of the Copolymers of 2-Methyl-5-vinyl  
Pyridine With Various "Interlacing" Agents B015/B064

amines was found to cause no reduction or their static and dynamic exchange capacity with respect to 0.1 N HCl (Table 2). The exchangers have a high absorptive power for phenol from aqueous solutions and a good exchange capacity for silver cyanide complexes. There are 1 figure, 2 tables, and 9 references: 7 Soviet and 2 US.

ASSOCIATION: Moskovskiy khimiko-tehnologicheskiy institut im.  
D. I. Mendeleyeva (Moscow Institute of Chemical Technology  
imeni D. I. Mendeleyev)

SUBMITTED: February 19, 1960

X

Card 3/3

53831

2205, 1274, 1370

S/190/60/002/009/020/023/xx  
B004/B056

AUTHORS: Davankov, A. B., Zambrovskaya, Ye. V.

TITLE: Synthesis and Application of Polymers With Thiol- and Thione Groups

PERIODICAL: Vysokomolekulyarnyye soyedineniya, 1960, Vol. 2, No. 9,  
pp. 1330-1334

TEXT: The authors aimed at producing a cation exchanger containing SH- and =S groups and which, besides being used for analytical purposes, may also serve for the separation of metals, whose sulfides are difficultly soluble in water. For the synthesis of such an exchanger-resin, the authors used two methods. 1) The CAT(SDT) resin was obtained by the treatment of a chloromethylated copolymer of styrene and 2-4% divinyl benzene with thiourea. The SDT resin contained 11.3 - 15.48% sulfur, and was hydrolyzed by means of 5% NaOH. The yield was 70-85%, referred to the initial chloromethylated copolymer. The sorption properties of this resin are only little influenced by the pH. The dynamic exchange capacity, measured by means of 0.1 N AgNO<sub>3</sub>, amounted to 2.7 - 2.8 mg-equiv/g. The regeneration was carried

Card 1/3

55751

Synthesis and Application of Polymers With  
Thiol- and Thione Groups

5/190/60/002/009/020/023/XX  
B004/B056

out by reducing the silver with  $\text{NaHSO}_3$  or  $\text{Na}_2\text{SO}_3$ . When  $\text{NaHSO}_3$  was used, no decrease of the absorption capacity occurred. In eight cycles of sorption and regeneration, 238.7% Ag, calculated per weight of the resin, and/or 22.1% mg-equiv/g referred to metal were adsorbed on the cation exchanger. 2) The  $^1\text{CH}_2$ (SNK) resin was obtained from a polymer containing amino styrene and 2% divinyl benzene by means of diazotizing with an excess of  $\text{HNO}_2$  at 5°C and treating the diazo compound with potassium ethylxanthogenate. The sulfur content of the resin was 5.16 - 6.10%. The dynamic exchange capacity determined by means of  $\text{AgNO}_3$  was 2.13 mg-equiv/g. Also in the case of this resin,  $\text{NaHSO}_3$  proved to be more suited for regeneration, because the capacity did not decrease to such an extent as when using the  $\text{Na}_2\text{SO}_3$ . The authors further investigated TH(TN) resin synthesized by A. B. Dávánkov and V. M. Laufer in the kafedra plastmass (Chair of Plastics) of their institute. TN is a polycondensation product of thiourea, melamine, and formaldehyde. The exchange capacity, which was determined according to the above method, was 2.70 - 4.44 mg-equiv/g. There are 3 tables and 6 references: 1 Soviet, 2 US, and 3 British.

Card 2/3

Synthesis and Application of Polymers With      S/190/60/002/009/020/023/XX  
Thiol- and Thione Groups      B004/B056

ASSOCIATION: Khimiko-tehnologicheskiy institut im. D. I. Mendeleyeva  
(Institute of Chemical Technology imeni D. I. Mendeleyev)

SUBMITTED: March 29, 1960

Card 3/3

DAVANKOV, A.B.; LAUFER, V.M.; IOSILEVICH, A.I.

New methods of sorption and desorption of silver by ionites in an electric field. Izv. vys. ucheb. zav.; tsvet. met. 3 no.4:81-88 '60. (MIR 13:9)

l. Moskovskiy khimiko-tehnologicheskiy institut. Kafefra tehnologii plastmass.

(Silver)

(Ion exchange)

(Electric fields)

24738  
S/080/60/035/007/024/024/XX  
D270/D304

15-8100

AUTHOR:

Davankov, A.B. and Morovintseva, N.A.

TITLE:

Intragranular chemical transformations in copolymers  
of vinyl toluene with divinyl benzene

PERIODICAL: Zhurnal prikladnoy khimii, v. 33, no. 7, 1960, 1676-  
1679

TEXT: The relationship between the structure of polymers and their transformation, especially for the little-studied compounds of vinylene with benzene and toluene, has much practical and theoretical significance, so the authors investigated the copolymerization of vinyl toluene with divinyl benzene and the conversion of this compound into a high-polymer amine. Copolymerization is effected in water in a glass cylinder fitted with a mechanical paddle-mixer and reflux condenser. After heating at 75 - 85° for 5 - 6 hours on a water bath small granules (diam. 0.25 - 1 mm) which assume a reddish color on washing and drying, are separated from the solutions. The relationship is shown, first noted by Ye. B. Trostyanskaya et al

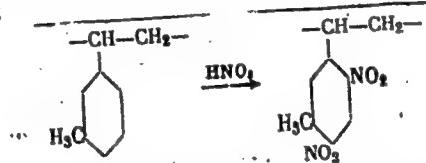
Card 1/3

24738

S/080/60/033/007/024/024/XX  
D270/D304

Intragranular chemical...

(Ref. 4: Khim. nauka i prom., 2, 5, 593, 1957) of the number of lateral bonds in the molecular lattice of the copolymers to the swelling of the granules in dioxane. Nitration is accomplished by cooling a mixture of the granules with  $\text{HNO}_3$  and  $\text{H}_2\text{SO}_4$  and then heating it on a water bath for 2 - 6 hours at 75 - 80°. Depending on the exact temperature and length of nitration, intermediate products with a content of 3.55 - 9.29%  $\text{N}_2$  are obtained, possibly through the following reaction:



The nitro groups are subsequently changed into amine groups by their reduction with  $\text{SnCl}_2$  in  $\text{HCl}$  at 100°. The granules thus synthesized have a dark-brown or black color, the yield being 75 - 95%. The most complete nitration and reduction results from an original mixture containing the least divinyl benzene - 2-4% of the weight of

Card 2/3

Intragranular chemical...

24738  
S/080/60/033/007/024/024/XX  
D270/D304

vinyl toluene. Under these conditions the exchange capacity of the amino-resin is 5.5 and 5.9 mg equvs/g for 0.1N HCl and 0.5 H<sub>2</sub>SO<sub>4</sub> respectively. The most stable granules, however, are prepared from copolymers containing the maximum amount of divinyl benzene - 8-10%. In conclusion the authors stress the importance of the relationship between the nitration and reduction reactions and the number of lateral bonds in the molecular lattice of the studied copolymers during their conversion into amines. There are 1 figure, 2 tables and 4 references: 3 Soviet-bloc and 1 non-Soviet-bloc. The reference to the English-language publication reads as follows: H. Zentman, J. Chem. Soc., 982 (1950).

SUBMITTED: December 7, 1959

Card 3/3

39449  
S/081/62/000/012/063/063  
B158/B101

15.8100

AUTHORS: Davankov, A. B., Zambrovskaya, Ye. V.

TITLE: Synthesis and application of high molecular compounds containing thiols and thionic groups

PERIODICAL: Referativnyy zhurnal. Khimiya, no. 12, 1962, 669, abstract 12R89 (Sb."Issled. v obl. prom. primeneniya sorbentov." M., AN SSSR, 1961, 27-30)

TEXT: Styrene copolymers with 2-4% divinyl benzene, which contain sulfhydryl groups and are weakly acid cation exchange resins, are produced by the action of a solution of thiourea (in water or dioxane) on a chloromethylated granular copolymer (0.8:1) with a 70-85% yield and a sulfur content of 11.3-15.3%. The exchange capacity from a 0.1 N solution of  $\text{AgNO}_3$  after 8 sorption cycles is 22.1 milliequivalents/g; the  $\text{Ag}^+$  is reduced with a 10%  $\text{NaHSO}_3$  solution. Ion exchange resin, containing functional SH groups, is obtained also by diazotizing a co-polymer of aminostyrene (11%  $\text{N}_2$ ) and divinyl benzene (2%), swollen in

Card 1/2

DAVANKOV, A.B.; ZAMBROVSKAYA, Ye.V.; GERASHCHENKO, Z.V.

Synthesis and study of sulfhydryl derivatives of  
polystyrene and its copolymers. Part 2. Vysokom. soed.  
3 no.10:1468-1473 0 '61. (MIRA 14:9)

1. Moskovskiy khimiko-tehnologicheskiy institut imeni D.I.  
Medeleyeva.  
(Styrene polymers) (Mercapto compounds)

DAVANKOV, A.B.; VITOL, O.A.; FAYNGOR, B.A.

Chemical transformations of granular copolymers of vinyltoluene with divinylbenzene and other "cross-linking" agents. Part 1: Chloromethylation of vinyltoluene and divinylbenzene copolymers. Vysokom. soed. 3 no.10:1566-1571 0 '61. (MIRA 14:9)

1. Moskovskiy khimiko-tehnologicheskiy institut imeni D.I. Mendeleyeva.  
(Benzene) (Toluene)

DAVANKOV, A.B.; LAUFER, V.M.

Electrochemical method of sorption and desorption of silver  
on ionites. Izv. vys. ucheb. zav.; tsvet. met. 4 no.4:121-123  
'61. (MIRA 14:8)

1. Moskovskiy khimiko-tehnologicheskiy institut, kafedra  
tehnologii plastmass.  
(Sorption) (Silver ions)

DAVANKOV, A.B.; ZUBAKOVA, L.B.; SHABANOVA, N.A.

Extraction of nitrophenols from aqueous solutions by anion exchange  
resins. Zhur. prikl. khim. 34 no.2:403-407 F '61. (MIRA 14,2)  
(Phenols) (Ion exchange)

DAVANKOV, A.B.; ZUBAKOVA, L.B.; ANTONOVA, A.B.

Preparation and chemical conversion of macro-molecular tertiary  
amines into quaternary pyridine bases. Zhur. prikl. khim. 34  
no.5:1110-1116 My '61. (MIRA 16:8)

(Amines) (Pyridine)

DAVANKOV, A.B.; APTOVA, T.A.; GITERMAN, Z.M.

Oxidation-reduction processes and silver concentration on  
electron-exchange polymers. Zhur.prikl.khim. 34 no.8:1852-  
1957 Ag '61. (MIR 14:8)

(Silver)

(Oxidation-Reduction reaction)

(Ion exchange resins)

DAVANKOV, A.B. (Moskva); LAUFER, V.M. (Moskva); GORDIYEVSKIY, A.V. (Moskva)

Storerooms of the Atlantic Ocean. Priroda 50 no.12:101-103 D  
'61. (MIRA 14:12)  
(Atlantic Ocean--Uranium) (Ion exchange)

DAVANKOV, Aleksandr Borisovich; FAYNBOYM, I.B., red.; RAKITIN, I.T.,  
tekhn. red.

[Ion exchangers] Ionity. Moskva, Izd-vo "Znanie," 1962. 40 p.  
(Novoe v zhizni, nauke, tekhnike. IV Seriia: Tekhnika, no.24)  
(MIRA 15:12)  
(Ion exchange resins)

36513  
S/149/62/000/002/007/008  
A006/A101

21. 7/20

AUTHORS: Davankov, A. B., Laufer, V. M., Azhazha, E. G., Gordiyevskiy, A. V.,  
Kiryushov, V. N.

TITLE: Experiences in extracting uranium and other elements from Atlantic  
Ocean water

PERIODICAL: Izvestiya vysshikh uchebnykh zavedeniy, Tsvetnaya Metallurgiya, no.  
2, 1962, 118-123

TEXT: Experiments of extracting various elements from Atlantic Ocean  
water were carried out in 1959, during the sixth Atlantic expedition of the  
Marine Hydrophysical Institute of AS SSSR. Water from various parts of the  
Atlantic was filtered through an absorption column mounted on board the expedi-  
tion vessel. This vinylplastic column, 1,600 mm high with 63 mm internal diam-  
eter, was filled with 3.5 kg granulated H-O anion-exchange resin in Cl form of  
64% moisture. An amount of 59,189 liters of water was filtered through the  
column at an average rate of 40 l/hour. The qualitative and quantitative deter-  
mination of various elements in the resin was carried out by radiometric  
 $\beta$ -radiation, luminescent and polarographical analyses. The amount of uranium

Card 1/2

Experiences in extracting uranium...

S/149/62/000/002/007/008  
A006/A101

extracted on conversion to the total amount of air-dry H-O resin was 303 mg according to data of radiometrical analysis; 413 mg according to luminescent analysis, and 417 mg according to polarographical analysis. The uranium content in the Atlantic water calculated from these data was:  $5.12 \cdot 10^{-6}$  g/l; (radiometric analysis);  $6.99 \cdot 10^{-6}$  g/l (luminescent analysis) and  $7.04 \cdot 10^{-6}$  g/l (polarographical analysis) or on conversion to normal sea water  $4.7 \cdot 10^{-6}$  g/kg;  $6.41 \cdot 10^{-6}$  g/kg and  $6.47 \cdot 10^{-6}$  g/kg, respectively. Semi-quantitative spectroscopical analysis of ash residue after burning the O-H resin was used to establish the presence of small amounts of silver, strontium, bismuth, zinc, copper, manganese, iron, aluminum, silicon, calcium, magnesium, and sodium. The silver content in the absorbent was determined by cupellation of the ash residue after burning 200 g O-H resin. An amount of 2.5 mg pure silver was then separated out which is  $5.75 \cdot 10^{-7}$  g per one liter of water. There are 4 tables and 13 references: 6 Soviet-bloc and 7 non-Soviet-bloc

ASSOCIATIONS: Moskovskiy khimiko-tehnologicheskiy institut (Moscow Chemical and Technological Institute); Kafedra tekhnologii plastmass (Department of the Technology of Plastics)  
SUBMITTED: February 25, 1961

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S/190/62/004/007/008/009  
B119/B180

AUTHORS: Davankov, A. B., Vitol, O. A.

TITLE: Chemical rearrangements of granular copolymers of vinyl toluene with divinyl benzene and other "crosslinking" agents.  
II. Chloromethylation of copolymers of vinyl toluene with ethylene glycol and diethylene glycol dimethacrylates

PERIODICAL: Vysokomolekulyarnyye soyedineniya, v. 4, no. 7, 1962,  
1093-1097

TEXT: The authors studied the chloromethylation of vinyl toluene - ethylene glycol dimethacrylate and vinyl toluene - diethylene glycol dimethacrylate in granular form (grain size 0.5-1.0 mm) by means of monochloro methyl ether in the presence of  $\text{SnCl}_4$  and  $\text{ZnCl}_2$  as catalysts. The content of ethylene glycol dimethacrylate and diethylene glycol dimethacrylate in the polymer was 2, 6, or 10%. Reaction time and catalyst concentration were varied in the experiments between 0.05 and 0.75 moles  $\text{SnCl}_4$ , or 0.1 and 0.75 moles  $\text{ZnCl}_2$  per base molecule of the copolymer. The following

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optimum reaction conditions were found: reaction time 2-4 hr, depending on the content of crosslinking agent; 6-10% crosslinking agent in the copolymer; 0.3 moles  $ZnCl_2$  per base molecule of copolymer in the reaction mixture. Copolymers containing 28.8% chlorine were obtained, corresponding to 158 chloromethyl groups per 100 benzene nuclei. Reaction times over 4 hr reduce an existing chlorine content (formation of methylene bridges with separation of HCl). Catalyst contents over 0.3 moles per base molecule of polymer cause a higher Cl content in the final product, but reduce its mechanical strength. There are 4 figures. The most important English-language reference is: K. Pepper, H. Paisley, M. Young, J. Chem. Soc., 1953, 4097.

ASSOCIATION: Moskovskiy khimiko-tehnologicheskiy institut im. D. I. Mendeleyeva (Moscow Institute of Chemical Technology imeni D. I. Mendeleyev)

SUBMITTED: May 3, 1961

Card 2/2

DAVANKOV, A.B.; LAUFER, V.M.; AZHAZHA, E.G.; GORDIYEVSKIY, A.V.; KIRYUSHOV,  
V.N.

Recovery of uranium and other elements from the water of the  
Atlantic Ocean. Izv. vys. ucheb. zav.; tsvet. met. 5 no.2:118-  
123 '62. (MIRA 15:3)

1. Moskovskiy khimiko-tehnologicheskiy institut, kafedra  
tehnologii plastmass.  
(Atlantic Ocean--Uranium) (Marine resources)

BAKHRAKH, Ye.E.; DAVANKOV, A.B.; MARTENS, L.A.; LAUFER, V.M.; SOKOLOVA, N.M.;  
OBUKHOVA, Z.A.; FILIPPOVA, N.Ye.

Cultivation of the plague microbe on media of acid casein hydrolysate  
demineralized using an ion-exchange resin. Zhur.mikrobiol., epid. i  
immun. 33 no.3:51~55 Mr '62. (MIRA 15:2)

1. Iz Gosudarstvennogo nauchno-issledovatel'skogo instituta  
mikrobiologii i epidemiologii Yugo-Vostoka SSSR "Mikrob".  
(PASTEURELLA PESTIS) (CASEIN) (ION EXCHANGE RESINS)

36.15.0  
S/080/62/035/004/006/022  
D267/D301

5.2100

AUTHORS: Davankov, A. B., Laufer, V. M., Bortel', E. and Tep-Lyakov, M. M.

TITLE: Sorption and subsequent desorption of ytterbium and europium on granular ionites in an electric field

PERIODICAL: Zhurnal prikladnoy khimii, v. 35, no. 4, 1962, 769-773

TEXT: The successful application of redox processes for the concentration and desorption of noble metals on granular ionites in an electric field prompted the authors to use these processes in the case of some lanthanides endowed with variable valency. Having chosen Yb and Eu as the elements to be tested, the authors intended first to check the possibility of desorption in the electric field of tervalent cations adsorbed on ionites, and then to try to reduce them to divalent ions and utilize the low solubility of sulphates for the purpose of concentration. Conditions have been studied of extracting and concentrating Eu and Yb from dilute solutions by means of the cationite KY-2(KU-2), and a method has been

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developed for achieving complete (> 95%) desorption of Eu ions from the adsorbent and for obtaining concentrated solutions of Eu by amalgamation. Yb did not form amalgams with Hg. The method of desorption in the electrical field with the use of a Hg cathode can be used to separate Eu from Yb and other rare-earth elements. Electrochemical desorption of Eu and Yb in the presence of  $H_2SO_4$  solutions as electrolyte did not ensure a complete extraction of these elements. There are 3 figures, 2 tables and 28 references: 18 Soviet-bloc and 10 non-Soviet-bloc. The 4 most recent references to the English-language publications read as follows: K. S. Spiegler, Techn. Rev., 100, 1953, 303; A. H. Creer, A. B. Mindler and V. P. Tevmine, Industr. Engng. Chem., 1958, 166; R. S. Stamborg, J. Seidl and J. Rahm, Polymer Sci., 31, no. 122-123, 1958, 15-24; R. Kunin, Ion exchange resins, New York, 1958.

SUBMITTED: April 13, 1961

Card 2/2

DAVANKOV, A.B.; ZUBAKOVA, L.B.; ZVEGINTSEVA, G.B.

Complex formation with phenols and absorptive capacity of  
high molecular weight derivatives of pyridine. Zhur.prikl.  
khim. 35 no.5:1133-1135 My '62. (MIRA 15:5)  
(Pyridine) (Phenols)  
(Ion exchange resins)

DAVANKOV, A.B.; APTOVA, T.A.

Desorption of silver and the regeneration of electron exchange  
resins by the electrochemical method. Zhur.prikl.khim. 35  
no.10:2171-2175 O '62. (MIRA 15:12)  
(Ion exchange resins) (Silver) (Electrochemistry)

8/190/63/005/002/013/024  
B101/B102

AUTHORS:

Davankov, A. B., Santo, I., Lilo, P. M.

TITLE:

Highmolecular derivatives of  $\alpha$ -methyl styrene. I. Some polymers and copolymers of  $\alpha$ -methyl styrene

PERIODICAL:

Vysokomolekulyarnyye soyedineniya, v. 5, no. 2, 1963,  
233-237

TEXT: Since the results of bulk and suspension copolymerization of  $\alpha$ -methyl styrene with divinyl benzene (DVB) as cross linking agent were unsatisfactory in the presence of benzoyl peroxide, suspension copolymerization was conducted in 4% aqueous solution of polyvinyl alcohol at 95-100°C using acryloylic dinitrile as initiator. The yield was 82% after 60 hrs with 4% DVB in the initial mixture and 100% after 7 hrs with 16% DVB. Regular globular granuli were obtained, the diameter of which increased with increasing DVB content. The swelling capacity in benzene, dichloro ethane,  $CCl_4$  and monochloro methyl ether decreased with increasing content of crosslinking agent, e.g., in benzene from 152% with 4% DVB to

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118% with 10% DVB. Higher concentration of the initiator and additions of acetic acid or maleic anhydride had an accelerating effect. Copolymerization of  $\alpha$ -methyl styrene with maleic anhydride took place also without initiator. With equimolecular ratio of  $\alpha$ -methyl styrene and maleic anhydride a polymer having an intrinsic viscosity of 0.14 was obtained after 3 hrs at 60°C; with a ratio of 1:4, 0.2 benzoyl peroxide, the copolymer obtained after 10 min at 75°C had the intrinsic viscosity 0.10. Methyl, ethyl, propyl and butyl maleinates copolymerize equally with  $\alpha$ -methyl styrene. Vitreous copolymers are formed. There are 1 figure and 4 tables.

ASSOCIATION:

Moskovskiy khimiko-tehnologicheskiy institut im. D. I. Mendeleyeva (Moscow Institute of Chemical Technology imeni D. I. Mendeleyev)

SUBMITTED:

August 26, 1961

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